Industrial Weighing

Catalog
Edition 2009

- Software
- Weighing Terminals
- Compact Scales
- Weighing Platforms
- Weigh Modules/Load Cells
- Vehicle Scales
- Dimensioning
- Packaging
- Product Inspection

Weighing and Measuring

Competence for Your Industry

METTLER TOLEDO

Scales/Platforms > Environments

	Capacities	Dry/Dusty	Heavy Washdown	Hazardous Area Ex
Compact Scales				
High Precision	3–35kg	52, 112		55, 74, 113
Standard Precision	3–60kg	50	57	55, 74
Platforms with hybrid construction *)				
Low capacity	15–300kg	60–63	60–63	60–63
High capacity	300–3000kg	66–67	66–67	66–67
Floor Scales with 4 load cells				
Floor/Pit Scale	300–3000kg	69	68	69
Low Profile Scale	300–1500kg	70	70	70
Pallet Scale	300–3000kg	71	71	71
Heavy capacity	3000–12 000kg	71	71	71
Pallet Truck Scale	1500, 2000kg	59		
Weigh Modules				
High Precision	0.12–6.1kg	76	76	76
Standard Sensors	5–300 000kg	78	78	77
Load Cells				
Single Point load cell	3–2000kg	78	78	
Canister, Ring, Beam cell	5–300 000kg	79	79	79
Vehicle Scales				
Steel, concrete, hybrid*)	up to several hundred tons	84–89	84–89	84–89

*) Hybrid construction is with integrated lever system

Pharmaceutical Preparations		**Active Pharmaceutical Ingredients, Fine & Specialty Chemicals, Cosmetics**			**Petrochemicals, Bulk Base Chemicals and Polymers**			**Processed Food, Beverages**		
39–53, **55–59**	37	39–53, **55–59**	47L	30	39–53, **55–59**	47L	30	44,49L,50,52,69	43L, 57L, 70	47-49, 70
28,35–40, **47–49**	35, **40**	49R, 49C	40, 47L	30	49R, 49C	40, **47L**	30	47	35, 37, 37	28, 29, **37**, 47
28,33,35,37,39	35, **37**	28,33,35,37,39	28, **35**	30	28,33,35,37,39	28, **35**	30	37	**35**, 37	28, 29, 35
33–40	26	33–40	36	30	33–40	26	30	37	33–37	**26**, 35, 37
47L, **49C**, 77	40	49R, 77	40, 47L, **49C**	30	49R, 77	47L, **49C**, 77	30	47, 77	33, 47, 77	33,39,47–49,77
47–49, 76–79	34–38, 64, 76	47–49, 76–79	34–38, 64, 76	30	47–49, 76–79	34–38, 64, 76	30	47–49, 76–79	64, 76–79	34–38, 64, 76
41C, 84–89		41C, 84–89	35, **41C**, 84	30	41C, 49, 84–89	35,49L,49C,41C,84	30	41C	35, 41C, 85	35, 41C, **85**
24, 43, 51R, 53	22, 33, 22–25	24,25,43,51R,53	22–25, 33		24,25,43,51R,53	22–25, 31		**24**, 45, 51, 53	33, 37, 43R	22, 23, 33
37–49		37–49	43R, 51R		37–49	43R, 53R				
33–53		33–53	37		33–53	37		45, 51, 53, 69	43, 57, 70	43,51,53,**57**,70
								116	117	116, 117
102–105		102–105			102–105	103		103	104, 105	103-105
106–109		106–109			106–109			106, 107	106, 107	106, 107
92–100		92–100			92–100					
43, 59, 48	40	43, 48, **49L**, 59	40	30	43, 48, **49L**, 59	40	30	44, 49L, 50	40, 43, **57**	37, **43**
33,35,37,39,40	40	33,35,37,39,40		30	33,35,37,39,40		30	37, 37	33, 35, 37, 37	33, 35, 37, 37
GMP, Stainless steel	PLC/MES/ERP	Stainless steel, Robustness	PLC/MES/ERP	Zone1/21+2/22 Div. 1+ 2	Very harsh environment, Stainless steel	PLC/MES/ERP	Zone1/21+2/22 Div. 1+ 2		IP69k, Hygienic design, Stainless steel	PLC/MES/ERP

EasySelect™ – the Smart Matrix that gives you the Solution you are looking for

Basic	Heavy Washdown	Data Processing/ Integration	Hazardous Area compliance

Bulk Food (Grain, Cereals, Sugar, Feed, Petfood, Oil…)				Metal, Electro, Plastic (automotive Suppliers)		Raw Materials and Aggregates			Transport and Logistics	
44,45,50,80,69	43, 57, 70	47–45, 70	73, 74, 47L, 77	43,**44**,45,50,52,58,59		43, 44, **41C**, 69	70	74, 77	44,49L,52,54,59,69	
47	35, 37	28, 29, **37**, 47	73, 47L, 78, 79	47	34–39, 47	37, 45	35	37, 79	37	37
37	**35**, 37	28, 29, 35	73, 79	34–39	34–39	37	35, 47	37, 47, 79		
37	33, 35, 37, 37	26, **35**, 37	73, 79	33–39	33–39	33, **37**	35	35, 79	**33**	47
47, 77	33, 47, 77	33,37,47–45,77	73, 47L, 77–79	47, 77	33, 47, 77	47, 77	47, 77	47, 77	**41C,** 77	35, 77
47–49, 76–79	64, 76–79	34–38, 76	77–79	47–49, 76–79	34–38,64,76	47–49, 76–79	34–38,64,76	77–79	47–49, 76–79	49, 75, 77
41C	35, 41C, 85	35, 41C, 85	79	**41C**	**41C**	35	79			
24, 45, 51, 53	33, 35, 43R	22, 23, 33		33, **43R**, 51R, 53R	33	33,**37**,45R,51R,53R	33, 43R		45–53, 59	37
				37,43–45,51,53,58–59	45R,51R,53R	45–53	43	77	45, 51, 57, 59	
45, 51, 53	43, 57, 70	43,51,53,**57**,70	77	43, 45, 49L, **51**, 53		45, **57**	43	77	77	
									116	
103	104, 105	103–105	79	92–100					102–105	
106, 107	106, 107	106, 107				45, 92–100			106	
				45, 90–101		69			45,54,69,75,**90**–100	
				92–101					92–100	
44, 49L, 50	37, 43, **57**	37, **43**	73, 77	43,45,49L,50–53,58–59	43, **49L**	45, 49L, 59	77		45, 49L	
37, 37	33, 35, 37, 37	33, 35, 37, 37	73, 79	33-39	33–39	33, 37	33, 37	37, 79	33, 37	33, 37
	IP69k, Hygienic design, Stain-less steel	PLC/MES/ERP	Zone1/21 + 2/22 Div. 1+ 2		PLC/MES/ ERP		PLC/MES/ ERP			PLC/MES/ERP

The right Solution
for your specific Needs

From food processing plants, active pharmaceutical ingredients manufacturing, pharma formulation, petrochemical and polymer plants, shipping and warehousing up to the heavy duty machinery industry – we make our experience and knowledge available to you no matter whether you are looking for a laboratory application or an industrial grade solution.

A truly global Company
METTLER TOLEDO is a leading global supplier of precision instruments and the world's largest manufacturer of weighing instruments for use in laboratory, industrial and food retailing applications. The company holds top-three market positions in several related analytical instruments, and is a leading provider of automated chemistry systems used in drug and chemical compound discovery and development. In addition, the company is the world's largest manufacturer and marketer of metal detection systems used in production and packaging.

Pharmaceutical Preparation
Crucial to the quality of your solid, semi-solid or liquid preparations. Our solutions ensure Good Documentation Practice – from paper printouts to full CFR 21 part 11-ready electronic batch documentation and are fully integrable to your MES or ERP system. We help you qualify our high precision weighing equipment that is constructed specifically to minimize cross-contamination and guarantees easy cleaning. Our service offering makes sure that every measurement is and will remain qualified and that your processes are validated trouble-free.

▶ **www.mt.com/ind-pharma**

Active Pharmaceutical Ingredients (API), Fine Chemicals and Cosmetics
High accuracy where it counts, great speed where needed, full safety in hazardous areas, and everything tailored to comply with GMP – your processes demand the maximum in terms of equipment reliability, uptime, safety, productivity and automation. Our offering ranges from simple manual weighing, data-integrated tank- and reactor weighing to fully automated process weighing solutions. Furthermore, we can help you to perform successful equipment qualification and complex control and data integration.

▶ **www.mt.com/ind-api**
▶ **www.mt.com/ind-fragrances-cosmetics**

Petrochemicals, Bulk Base Chemicals and Polymers
In a process environment that demands instant access to reliable data, seamless connectivity to PLC's, DCS' and your factory network, and up to 100% uptime – our weighing solutions make process control easy in hazardous areas and do not compromise between speed, ruggedness, reliability and safety.

- **www.mt.com/petrochemicals**
- **www.mt.com/ind-plastics-rubber**
- **www.mt.com/ind-dyes-inks**

Specialty Chemicals
Built-in quality into your processes and products, maximized productivity with no downtime, dependable documentation and trouble-free compliance to your and your customer's quality systems, as well as full safety in hazardous areas – the METTLER TOLEDO weighing solutions help boost output while increasing quality.

- **www.mt.com/specialty-chemicals**

Processed Food – Meat, Poultry, Dairy, Fruit, Vegetables, Bakery, Snacks, Chocolate, Confectionary, Convenience…
Hygienically sensitive areas require equipment complying with the latest hygienic design guidelines and resistance against harsh cleaning procedures. Our solutions range from fast over/under portioning scales and rugged floor scales up to statistical quality control and recipe formulation systems integrated into your ERP environment.

- **www.mt.com/ind-bakery-snacks-sweets**
- **www.mt.com/ind-meat-ready-meals**
- **www.mt.com/ind-fruit-vegetables**

Bulk Food/Raw Material – Grain, Cereals, Sugar, Feed, Petfood, Oil…
Full transparency in your material flow, fast and accurate batching and filling procedures are essential to reduce product giveaway and increase your profitability. Rugged heavy capacity tank and silo scales, a wide range of truck and rail scales and easy integration into DCS/MES systems help to accelerate and automate your processes to meet your business goals.

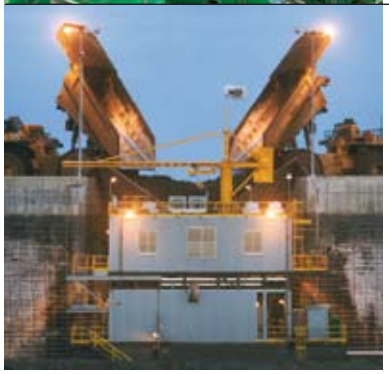
- **www.mt.com/ind-bulk-foods**

Beverages – Water, Soft Drinks, Juice, Beer, Spirits, Wine…
Accurate repetitive formulations, high-speed filling and exact net content control are important to fulfil legislation and keep your customers happy. We offer all kind of filling and batching solutions, stand-alone or networked formulation or statistical quality control systems to help to improve your profitability.

- **www.mt.com/ind-dairy-beverages**

Discrete Manufacturing Electronics/Machinery/Automotive
In demanding industrial environments equipment must often take the strain. Rugged METTLER TOLEDO scales and balances accurately record all necessary manufacturing data, count exact quantities for specific orders, and deliver documentable results for quality assurance. From precision engineering to heavy industry, from simple electrical devices to car components or microelectronics.

- **www.mt.com/ind-discrete-manufacturing**



Raw Materials and Aggregates
Reliably control the yield of your mine or quarry with heavy duty vehicles scales and selected for either commercial duty trucks and trains or any type of offroad truck. Static or dynamic. METTLER TOLEDO increases your productivity while reducing your long-term service expense.

- **www.mt.com/ind-aggregates**

Transport & Logistics
In addition to geographical information, weight and volume data, by the quickest route, are the basic parameters for planning. Instructions for vehicles and warehousing can be specified precisely with METTLER TOLEDO weighing and dimensioning systems. Our solutions help to speed up throughput and increase revenues.

- **www.mt.com/transport**

We speak the same Language

- **Are you looking for a demanding filling application?**
- **Do you need to embed an inventory management solution into your process?**
- **Do you have to comply with the latest regulations?**

Whatever your needs are, the solution is METTLER TOLEDO: We make sure that your processes are optimized for maximum efficiency and reliability. We deliver weighing systems that integrate productivity, quality, compliance and safety into complete solutions.

Simple Weighing
Easy, effective and efficient! The ideal solution for applications in which simple weighing is key. Clearly structured large format keys, with tactile feedback combined with the easy-to-read display for reliable and fast results. From micrograms to tonnes.

▶ **www.mt.com/simple-weighing**

Filling/Dosing
When filling intermediate bulk containers, drums, FIBC or vials – we provide fast, precise and repeatable results. High-performance weighing terminals connected to precision scales, weigh modules or load cells are designed to provide unmatchable speed and accuracy. Our systems have direct connectivity to PLCs via fieldbus interfaces and can continuously monitor your output, ensuring your filling process is consistently within tolerance.

▶ **www.mt.com/filling**

Blending/Batching
Consistent mixtures, blend after blend, 24/7 with almost no downtime or shutdown – blending solutions from METTLER TOLEDO guarantee consistent, fast mixtures. Their flexibility and scalability allow for adaptation to the continuously changing and growing requirements from simple to the most complex applications. That is why repeatabilty from the first fill to the millionth is the hallmark of our solutions.

▶ **www.mt.com/batching**

Formulation/Recipe
If valuable raw materials need to be added accurately to produce the right mixture the METTLER TOLEDO line of PC-based solutions and terminals with scale bases is the right choice. Minor shifts or variations in ingredients can mean failure while repeatable adherence to the formula delivers profits. From manual up to automatic weighing solutions, we can help with connectivity up to a PLC, DCS or even to an ERP system like SAP.

▶ **www.mt.com/formulation**

Inventory Management
Tank, vessel, and hopper weighing for inventory control, tank monitoring, and process control while mixing, agitating and filling. We provide greater process uptime, fast and repeatable material handling, inventory management and reduction of product losses due to higher achieved accuracy and reliability.

▶ **www.mt.com/inventory**

Inbound/Outbound Vehicle Weighing

▶ **www.mt.com/vehicle**

When your business sells product by the litre, cubic meter, kilogram or tonne make sure that you are not shipping profit. With an accurate METTLER TOLEDO truck or rail scale many customers realize that they can recover profit on vehicles filled by volume or mass-flow by cross-checking against a more accurate vehicle scale. Vehicle scales operate in any rough environment and report system failures within milliseconds. METTLER TOLEDO connects to many types of ERP systems via Ethernet.

Statistical Quality Control/Process Control (SQC & SPC)

▶ **www.mt.com/sqc**

Assure quality, don't overfill and save costs! METTLER TOLEDO provides a comprehensive range of quality control products to meet your predefined product quality requirements, in order to easily identify quality problems and to sort them out systematically. Our SQC products range from embedded compact solutions up to our expert system FreeWeigh.Net® with distributed test sites and centralized database.

Counting

▶ **www.mt.com/counting**

Whenever inventory data is required, every part is important. With METTLER TOLEDO counting solutions you can be sure that neither overfill nor underfill of one single piece affects your balance sheet adversely.

Over/Under Checkweighing

▶ **www.mt.com/over-under**

METTLER TOLEDO scales handle over/under checkweighing perfectly. High-speed scales and easy to read displays spot over- and underweight when checking or portioning.

Weigh-Price Labelling

▶ **www.mt.com/ind-wpl**

Flexible label design and sizes, fast product change and high reliability are most important for your prepacked self-service products. Our solutions range from manual static up to automatic integrated solutions with several printers and easy data integration for full traceability.

In-Line Checkweighing

▶ **www.mt.com/garvens**

100% weighing and sorting goods in motion – quality control, monitoring and controlling of filling processes made easy. Garvens checkweighers – integrated into your production or transport lines – can achieve a throughput of up to 1000 packages per minute, with high accuracy and without product flow interruption.

Foreign Body Detection

▶ **www.mt.com/safeline-xray**

Product inspection made easy with metal detection and x-ray inspection systems from METTLER TOLEDO. Our solutions help to identify foreign bodies, assure product safety and protect your brands.

Mail/Shipping

▶ **www.mt.com/mail-shipping**

For shipping applications our scales can be used with PC based shipping systems with multiple protocol support for easy interface, metric or imperial indication, and smooth or ball top platter for conveyor operations.

Dimensioning

▶ **www.mt.com/dimensioning**

Large and small packages can be weighed and measured statically or on a conveyor belt to give accurate weight and volume of the box. Freight costs and space requirements for warehousing and dispatching are made available at the touch of a button for a highly efficient transport and logistics process.

Mobile Weighing

Customer Specific

Quality Assurance

Maximized Profitability
with thorough Quality Control!

Flawless and predictable product quality are cornerstones of successful production of consumer products, whether they are food, medicaments or toileteries. To streamline processes, minimize material loss and stay within legal requirements advanced quality assurance tools are needed in order to guarantee consumer satisfaction and to produce under optimum conditions with maximum efficiency.

Today's consumers are demanding in terms of product quality and price, making them crucial factors for purchasing decisions and subsequently for the success of a product. Governments and trade-associations issue and enforce laws and regulations about product quality, safety and traceability to ensure fairness in trade and to eliminate risks, which could arise from the usage of any product.
In order to comply with this huge amount of rules and requirements and – in the same time – to be efficient and cost oriented in production advanced tools for quality control are an inevitable must.

The right partner for your strategic business decision
Based on years of experience with quality assurance in all significant producing industries METTLER TOLEDO offers a wide range of suitable solutions, which combine acknowledge of processes, legal requirements and outstanding equipment to advanced systems providing crucial data for decisions to improve a production while, staying within the boundaries given by the lawmakers.

Matching solutions with fast payback for any need and system size
Statistical Quality Control (SQC) systems allow understanding trends in filling processes while production is running. Thus giving the possibility to take corrective action immediately and preventing a production run from being rejected or having to be reworked. Impacts to production cost are significant and grow proportionally to the cost for raw materials.

Optimized net content control in production
Scale embedded SQC systems are flexible and easy-to-use solutions, which are used to collect data for product net content control. They provide their statistics on the spot in easy readable reports and fulfill all tasks in order to optimize product fill while maintaining legal requirements.

If an all-embracing solution with centralized data management for distributed data collection is needed METTLER TOLEDO has the right product offering network connectivity to balances, scales, checkweighers, metal detectors and terminals.

Compliance to 21 CFR Part 11, IFS or HACCP
SQC solutions are designed and developed on state-of-the-art technology and in compliance with standards, such as GAMP. They have built-in functionality as required by today's regulations and thanks to continuous product evolution they guarantee longevity of the investment for years.

Our solutions make your production more profitable and your products more competitive – thus your company more successful!

Read more about SQC solutions on page 22–25.

www.mt.com/sqc

Reliable Production
ensured by modern Formulation Systems

Manual formulation remains very important even on highly automated cutting-edge production lines. Computer-based formulation systems allow faster production of continuously improved quality and lower rejection rates. The emphasis is on traceability and regulatory compliance.

Formulation systems have to cover a broad spectrum of requirements in highly regulated industries and ensure traceability without significantly increasing operator workload.

Scalability
Customers have varying needs and applications, which can be met by a variety of products ranging from standalone systems up to comprehensive, scalable and integrated networked solutions. Formulation systems must fit into the customer's setup with minimal adaptation of existing processes.

METTLER TOLEDO offers solutions for simple formulation tasks through to scalable configurations for integration into host ERP systems. This extensive portfolio allows the company to offer full customization.

Getting the mixture right
Simple and consistent prompts via the user interface ensure reliable weighing. Functions like batch identification, transfer of weight values within tolerance only, ingredient overweight correction options and automatic calculation of active ingredients are further important factors in achieving such dependability and largely avoiding incorrect mixtures and wastage of expensive raw materials.

METTLER TOLEDO products support your efforts to achieve high formulation quality with excellent weighing equipment (such as balances, industrial terminals, label printers and barcode readers).

21 CFR Part 11 conformity
Compliance with legislation and regulations (such as those of the FDA, especially in 21 CFR Part 11 relating to the pharmaceutical sector) plays a central role in formulation.

Traceability
Seamless traceability in relating an order back to its production batches, raw materials or balances where the batch has been produced is paramount in sectors like the pharma or food industry.

FormWeigh.Net® from METTLER TOLEDO meets 21 CFR Part 11 and traceability requirements.

Read more about FormWeigh.Net® on page 26–27.

www.mt.com/formweighnet
www.mt.com/formulation

Enhanced Productivity/Batching

How does your Company measure enhanced Productivity?

- **Is it by precise measurement of raw material used?**
- **Is it by repeatability of material feed control in making and packing areas?**
- **Is it by speed of the manufacturing cycles in making and packing?**
- **Is it by increasing uptime by reducing equipment failures?**
- **Is it by a quicker return on investment?**

However your company measures it, and whether your manufacturing needs to be simple or more advanced, METTLER TOLEDO can provide you with a wide range of solutions.

Time and time again, customers have deployed solutions to help them improve the management of their processes, and therefore improve their productivity.

Precise material delivery at speed
The most common detractor to precise weighing of materials is vibration. Electronic techniques are often needed as a supplement to make the displayed weight more stable.
TraxDSP™ from METTLER TOLEDO is a filtering technique that has been proven over years of real world application.

In many applications, the characteristics of a raw material or its delivery system, impacts on the rate at which material is delivered, and ultimately can impact the accuracy of the material fed. Patented algorithms embedded in **Q.i** (Quantum Impact) material feed controllers from METTLER TOLEDO dynamically adjust target parameters in real time basis assuring feed accuracy is always achieved.

Increasing asset utilization
Increasing the rate of weighing cycles, feed cycles or batch cycles a process is capable of running can help enhance the overall productivity of your process. Utilizing TraxDSP™ and Q.i boosts productivity levels minimizing the number of measurement & control steps required.

Increasing uptime
Anticipating failures before they occur ensures equipment is ready for use when you need it. This can be addressed by utilizing diagnostic tools. The **RAAD Box™** transforms conventional strain gauge load cell systems into an advanced digital sensor network enabling the analysis of every load cell in the system.
TraxEMT™ suite of service tools provides built-in calibration test maintenance capabilities. Keeping vital statistics related to the operation of the weighing terminal can allow you to complete a batch, even if a load cell should get damaged mid batch.
Q.i 365™ a data logging and SPC analysis tool, goes one step farther by allowing you to track the feed performance of the material handling equipment, alarming you of dangers before they impact production.

Read more about productivity enhancing on page 28–29.

www.mt.com/qi
www.mt.com/batching

What counts for you?

Efficient material management is the basis for success and profitability in discrete manufacturing. Top quality parts counting systems with highest precision scales and easy integration in your inventory management system give you full control from goods-in to order processing.

Mobility with compact battery powered solution.

Up to four scales can be connected to a versatile terminal with large display and keyboard for error-free operation and barcode scanner/printer to properly identify/mark all components.

When verifying inventory, packing parts in containers, or confirming production quantities, every single part is important. METTLER TOLEDO is the leader in precision parts counting technology ensuring that only the correct numbers of parts are delivered to you or your customer.

Goods-in
Determine accurately, if you are getting what you pay for.

Production
Missing components cost time and money. Precise parts counting helps you to avoid production stops.

Warehouse
Increase your profitability by minimizing your material on stock. Rolling inventory helps to provide full transparency about every stock position at any time.

Order processing
Your customers expect exactly the quantity they have ordered. We supply you with the precision you need to qualify as a dependable supplier without giving anything away.

User-friendly applications – portioning/filling
The back-lit display of the BBA449 counting scale can change color from light blue to green, yellow or red. The parameters for color change can be set with the numerical keyboard. The display will change to one of the three colors once the preset number of parts has been reached.

Even if there is a large number of portions, filling and portioning remains easy and efficient. A multitude of planned quantities for certain articles can be stored in the scales and terminals.

colorWeight®

Everything is still ok, but the box is almost full

The box is full

Overfill

Everything ok, continue to fill

www.mt.com/counting

ServiceXXL®

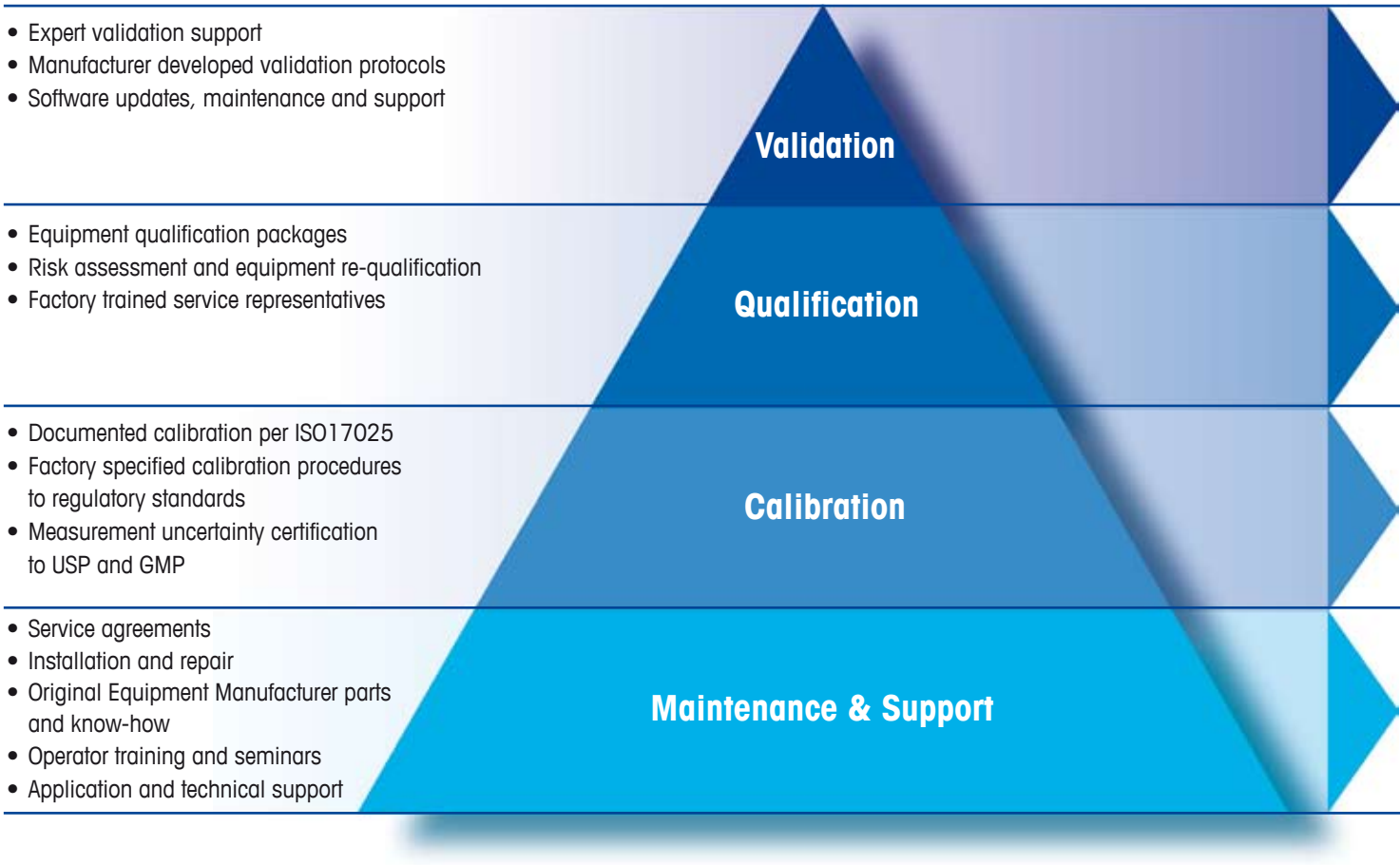
Tailored Services

We focus on your Business Success

Our qualified and equipped specialists are committed to providing timely local and personal service, backed by global depth and expertise:

- **METTLER TOLEDO is your first choice for professionally performed services**
- **ServiceXXL cost-effectively ensures quality and productivity for business processes**

ServiceXXL Solution


• Expert validation support
• Manufacturer developed validation protocols
• Software updates, maintenance and support
Validation
• Equipment qualification packages
• Risk assessment and equipment re-qualification
• Factory trained service representatives
Qualification
• Documented calibration per ISO17025
• Factory specified calibration procedures to regulatory standards
• Measurement uncertainty certification to USP and GMP
Calibration
• Service agreements
• Installation and repair
• Original Equipment Manufacturer parts and know-how
• Operator training and seminars
• Application and technical support
Maintenance & Support

ServiceXXL maximizes your return on investment through:

- Proper equipment application
- Accurate, safe and effective operation
- Optimized uptime and equipment life
- Compliance with quality standards and regulations

Our portfolio of cost-effective services includes:

- Risk analysis and consultation
- Installation and commissioning
- Calibration and certification
- Proactive maintenance and on-site repair
- Original Equipment Manufacturer service parts and test weights
- Depot exchange and repair plans
- Tailored service programs

Benefits to your Business

Disciplined procedures and processes provide confidence in results

- Optimized and documented processes deliver consistent results
- Specified parameters and procedures increase efficiencies
- Better process monitoring leads to improved compliance maintenance

Qualification ensures industry and regulatory standards are met

- Original Equipment Manufacturer qualification protocols ensure compliance
- Risk of non-compliance in production or audit reduced or eliminated
- Costs of compliance and start-up and training times greatly reduced

Dependable measurements lead to higher quality and lower costs

- Certified and documented Original Equipment Manufacturer calibration ensures accuracy, repeatability and traceability
- Equipment capability and measurement uncertainty essential to proper measurements
- Dependable measurements deliver quality results that meet specification

Proactive maintenance and expert support deliver higher productivity

- Equipment life and uptime optimized through regular, proactive maintenance
- Factory-trained, timely installation and maintenance reduces cost of ownership, improving ROI
- Operator training increases productivity and leads to safe operation

Professional Services

Choose a tailored service package that meets your needs, from cost effective installation and maintenance to comprehensive "no-risk" programs.

Essential – Timely – Sensible

Installation, set-up and calibration

The production readiness of METTLER TOLEDO products are guaranteed when you include ServiceXXL solutions for installation, connection, configuration and initial calibration. Our service technicians are factory trained to help you realize the greatest value by:

- Ensuring the best operating conditions
- Correctly installing and connecting equipment
- Configuring functions to application requirements
- Testing communications to peripherals and systems
- Selecting sequences to enhance operator productivity
- Confirming calibration for accurate measurements
- Reviewing user and maintenance procedures

Affordable – Convenient – Smart

Service Agreements

Protect your investment, control costs, minimize downtime and ensure precision operation with a service agreement. ServiceXXL solutions include packages tailored to provide services appropriate for the use, duty cycle and criticality of measurements in your operation.

Premium*
Comprehensive "no-risk, no-surprise" package offering the security of fixed-price support including labor, parts, travel and priority response to optimize uptime.

Standard*
Proactive maintenance package focused on maintaining factory specified performance, ensuring accuracy and improving the equipment lifecycle.

Basic*
Cost effective assurance of accurate measurements and proper operation.

Custom*
Consultative and collaborative design of a tailored Service Agreement.

ServiceXXL®

Tailored Services

Included with Service Agreement*	Basic	Standard	Premium
Cursory external cleaning	•	•	•
Visual operability inspection	•	•	•
Calibration audit and report	•		
Priority response time for repairs		•	•
Internal cleaning and inspection		•	•
Calibration and report w/traceability		•	
Test user interface and peripheral operation			•
Inspect, adjust, lubricate and test performance			•
Repair or replace worn/damaged components			•
Travel, labor and parts for out of warranty repairs			•
Calibration and comprehensive test report			•
Optional available services			
ISO9001 calibration and documentation	o	o	o
ISO17025 calibration and documentation	o	o	o
Increased frequency of calibration/maintenance	o	o	o
Legal for trade sealing of weighing system		o	o
Measurement uncertainty test and certificate		o	o
GMP test/maintenance/documentation to SOPs		o	o

* Agreement naming and contents vary by country

Calibration Documentation

The ServiceXXL portfolio embodies the industry's foremost calibration documentation services. These services provide assurance that your measurements are accurate, contributing to the quality of your products and augmenting the integrity of your quality system. Quality is designed into METTLER TOLEDO calibration services by:

- Reference weighs traceable to certified standards
- Utilization of standardized calibration procedures
- Tests for accuracy throughout measurement ranges
- Checking accuracy at multiple locations on the device
- Concise and purposeful design of calibration certificates
- Tests for repeatability and measurement uncertainty
- Application of correct industry and regulatory tolerances
- Factory trained and certified service professionals

Additionally, METTLER TOLEDO has the power of MiraCal™, our proprietary calibration management network. MiraCal automates our calibration procedures and the application of standards to produce and store high-quality calibration documentation.

We consult with you to tailor a ServiceXXL calibration program to satisfy requirements while staying within your budget.

- **Calibration Audits:** Standardized test procedures to check and document the performance of a scale consistent with use. The incorporation of measurement in your process produces the need to periodically confirm the accuracy of results. METTLER TOLEDO will professionally manage this requirement for you.

- **ISO9001 Calibration**
  Your quality system must document the performance and tests for all measurement devices that impact the quality of your processes or product. We will deliver proven calibration documentation that will ensure performance to specification and pass the scrutiny of an audit.

- **ISO17025 Calibration**
  METTLER TOLEDO is accredited globally to provide calibration documentation services that comply with the rigor of this prominent standard for calibration service providers. ISO17025 ensures the competency of our service representatives, consistency of our procedures and dependability of our results.

- **Measurement Uncertainty**
  Proper weighing practice requires the capability of producing results within your tolerance specifications. Determining measurement uncertainty and establishing process tolerances facilitates minimum weight determination – then you can weigh confidently. ServiceXXL includes services for certification of measurement uncertainty under operating conditions.

Compliance Services

ServiceXXL®
Tailored Services

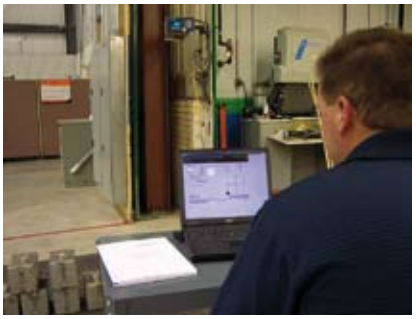
Pharmaceutical, biotech, food and beverage manufacturers are commonly subject to regulatory requirements for equipment qualification and computer system validation. METTLER TOLEDO has qualification and validation protocols and documentation solutions that satisfy the demands of the FDA and other regulatory bodies.

Equipment Qualification

IQ/OQ/PQ for Weighing Equipment in Production
IPac is designed to be consistent with the requirements of GMP and other quality systems. Execution of an IPac by a trained METTLER TOLEDO service representative delivers a self-contained solution for new equipment qualification or for re-qualification of equipment that is re-purposed, moved or lacks adequate documentation.

Benefits of outsourcing equipment qualification to us include:
- Achieving the qualified state and avoiding audit challenges
- Ensuring proper, compliant results using OEM protocols
- Reducing the time and expense of managing qualifications

IPac incorporates:
- **IQ (Initial Qualification)**
  Performs and documents equipment installation
- **OQ (Operational Qualification)**
  Initial calibration and user familiarization
- **PQ (Performance Qualification)**
  Supports setup of SOPs
- **MQ (Maintenance Qualification)**
  Establishes maintenance requirements



Computer System Validation

Consulting, Support and Protocols for Validation
The METTLER TOLEDO CSV Pac includes services and protocols to ensure successful validation of our FormWeigh.Net® or FreeWeigh.Net® solutions in a regulated environment. The validation approach begins with the first meeting, continues through process analysis, writing of Functional Requirements Specifications (FRS), risk analysis, and SOPs, continues with IQ and OQ, and culminates in a ready for production, validated solution.

You benefit from our experience and standardized, yet flexible approach by:
- Achieving validation faster and at lower cost
- Ensuring a dependable and maintainable system
- Establishing validation meeting audit requirements

The CSV Pac encompasses:
- **Validation Support**
  Complete on-site consultation for all phases of validation
- **Validation Manual 1**
  Qualification of METTLER TOLEDO as a vendor
- **Validation Manual 2**
  Guidelines, forms and protocols for validation

www.mt.com/service
www.mt.com/validation

System Integration
and Connectivity

Automation
Using our collaboration with the world leading suppliers of PLC, process control systems and enterprise software you can be assured that there is no easier way to integrate weighing technology into a modern process management environment.

Connectivity
Our terminals and instruments are professional communicators. METTLER TOLEDO can provide you with a wide variety of data interfaces to enable you to communicate with your PLCs, MES or ERP systems.

Global Reach –
serving you around the World
Wherever you install your equipment, there is a strong chance that METTLER TOLEDO is already there. We serve customers worldwide with the largest network in our industry. Our sales and service organizations around the globe ensure we have factory-trained, experienced and highly qualified specialists adding value to your processes.

Open System Weighing Terminals
If a METTLER TOLEDO product does not provide functionality "out of the box", we can provide either freely programmable weighing terminals or a solution programmed to the exact functionality requested for a given customer or integrator partner.

Be compliant with our weighing Products
Many weighing systems require approvals by local and international authorities. METTLER TOLEDO offers you the broadest range of worldwide approved weighing equipment and accessories. You can also benefit from the largest range of approved hazardous area (Ex) weighing solutions.

Software and Validation
Because weighing plays a significant role in the security, safety and traceability of consumer products such as food, cosmetics, pharmaceuticals, and biological products, we offer services to select the most accurate solution for a given process and can support our measuring solutions to the required validation standards.

EtherNet/IP™ conformance tested
ControlNet™
DeviceNet® CONFORMANCE TESTED

MES/ERP

Formulation/Recipe

Courtesy Beiersdorf AG

Inventory Control

Batching/Blending

Filling/Dosing

Process Control

PROFIBUS PROCESS FIELD BUS

Modbus-IDA
the architecture for distributed automation

Rockwell Automation
Encompass Product Partner
Global

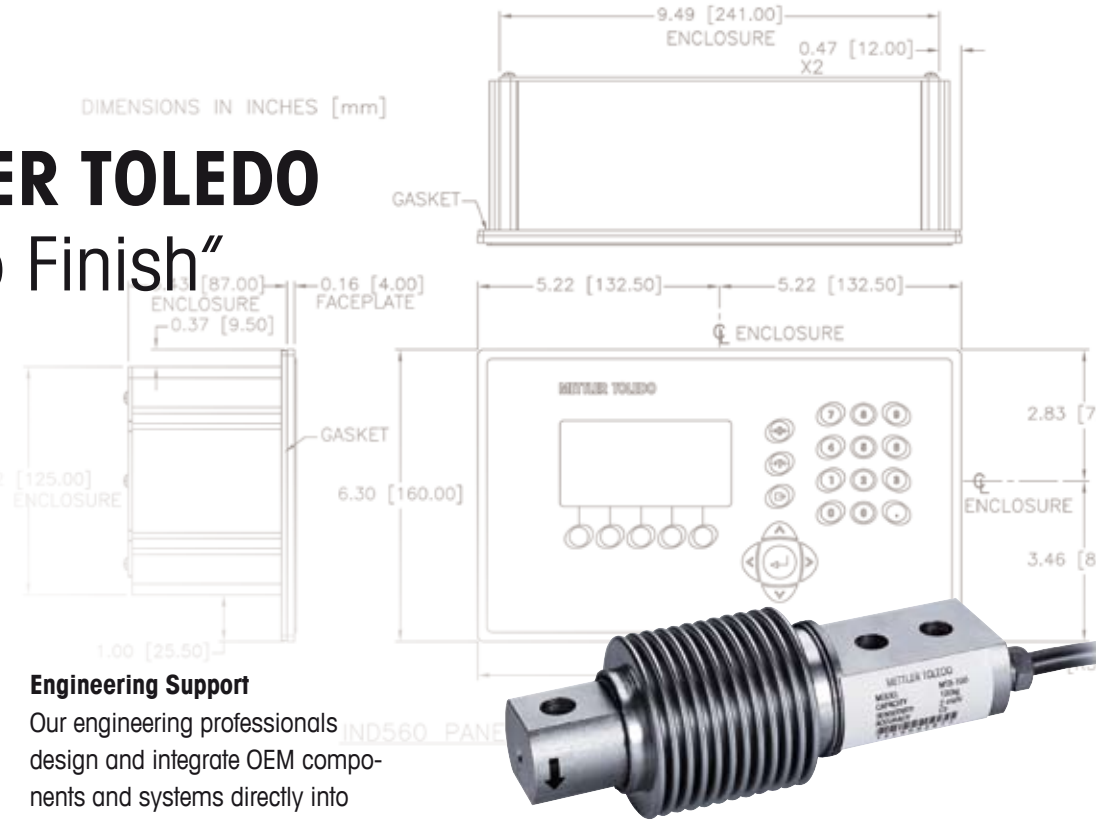
Weighing Solutions
for the OEM and System Integrator

ServiceXXL®
Tailored Services

Off the shelf...
Our weighing solutions are well known for reliable and accurate operation. With METTLER TOLEDO as your OEM and integration partner, you will have access to the best weighing technology, solutions and support available in the world. You can choose from a wide variety of load cells, sensors, and terminals that are proven around the globe.

...or customer specific
Tap into the industry's best research and development team to build a weighing solution tailored to your exact needs. We can solve customer problems by developing innovative technologies. These technologies provide precision control through accurate weighing and measuring. We not only offer solutions, but also a global service network for local support.

With METTLER TOLEDO
from "Start to Finish"



Testing
No weighing solution is complete without testing. METTLER TOLEDO has the broadest testing capability for weighing solutions in the world. You can have the confidence that our components will help your customer make a great product with your equipment, not just a good one.

Direct Connectivity
METTLER TOLEDO solutions collect process and transactional data and facilitate the processing and transfer to management information systems. Protocols supported include: TCP/IP, ControlNet™, Ethernet IP™, DeviceNet, PROFIBUS® DP, Modbus TCP, Allen-Bradley® RIO, 4–20mA/ 0–10V, RS422/485, RS232 and discrete digital I/O.

World-class Manufacturing
Our state-of-the-art facilities and distribution hubs are located on three different continents. They build your weighing components and deliver them according to your schedule. To ensure quality and a safe environment, all our operating units are certified to international quality and environmental standards.

Engineering Support
Our engineering professionals design and integrate OEM components and systems directly into your product according to your specifications. From planning through design and testing and agency approval, METTLER TOLEDO is with you all the way.

Electronic Solutions
We provide all the necessary electronics and software to facilitate fast, accurate and reliable integration with your product. Our instruments and application specific software integrate easily into IT environments, enhancing safety and efficiency as well as guaranteeing compliance.

For more details please order catalogue "Weighing Components from the Market Leader", edition 2009, under: **www.mt.com/ind-weighing-components**

www.mt.com/weighing-components

FreeWeigh.Net®

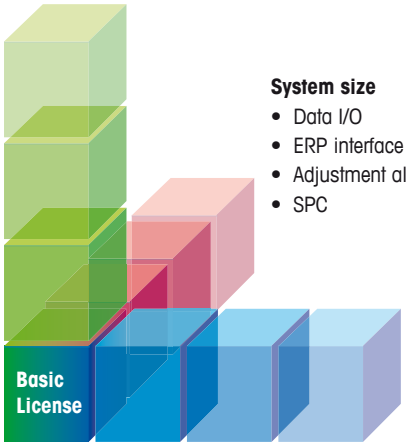
Networked Quality Assurance
beyond Filling Control!

The networked quality assurance system with virtually no limits in expandability! Statistical Quality Control (SQC) with FreeWeigh.Net® becomes a task as easy as working with any other office application, allowing systematic acquisition of quality data, statistics analysis, documentation and monitoring in a networked and factory-wide quality assurance system.

This flexible and highly configurable PC-based software system provides powerful functions for data acquisition thanks to the vast range of connectable devices and input possibilities.
This makes SQC a method far beyond weighing as it enhances data collection and analysis to almost any physical parameter and results from visual product inspection, such as correct "best before date", appearance or proper packing.
The basic license provides a full set of features allowing thorough quality control. Optional modules and connectivity drivers allow gradual expansion and enhancement of the system as it is needed.

The scaleability of the software permits tailor made solutions without having to spend money and time for special software development, guaranteeing maximum return on investment and long term value of the system.

Functionality
- Audit Trail/21 CFR Part 11
- Batch handling
- Attributes and testplans
- Multihead filling

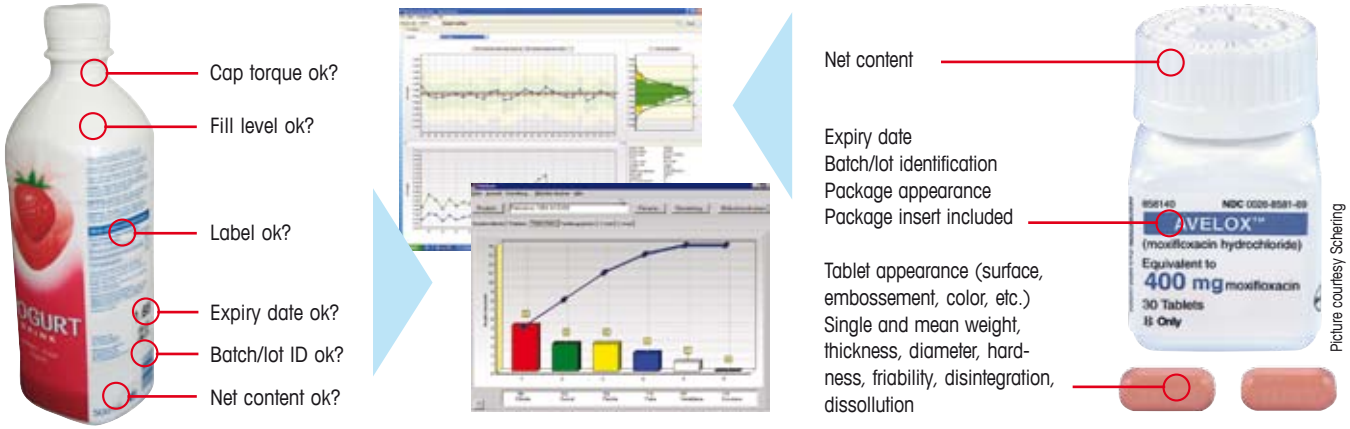


System size
- Data I/O
- ERP interface
- Adjustment algorithms
- SPC

Connectivity
- Balance/scale
- Checkweigher
- Metal detector
- Digital I/O

Don't miss any important Quality Aspect!

Compliance with legal net content requirements and optimized fill quantity are important cornerstones of successful production. With FreeWeigh.Net® you are able to go far beyond as it enables you to enhance your quality control to thorough product inspection including aspects like product expiry date, proper package seals, correct labelling and the HACCP sensitive check for metallic contamination. With FreeWeigh.Net®, nothing is left out and the products leave your factory in a constant and traceable quality, ensuring consumer satisfaction and safety.



Picture courtesy Schering

Harness the Process and save Money!

Potential savings in production are countless. Having a process optimized to the limits of fill quantity guarantees compliance with legal requirements and reduces overfill to the absolute minimum.

Manual reporting is a time consuming and error prone task. Having the measurement data on paper and transferring it to a spreadsheet can take hours where sampling pace is high. FreeWeigh.Net® streamlines the process of data acquisition and makes the rest simple for you without any need of manual action exactly at the moment you want with the advanced reporting functionality. The user interface of FreeWeigh.Net® is designed for easy, efficient and convenient data acquisition. Training costs for the users are low and optional testplans ensure that no data is left out.

FreeWeigh.Net® at a Glance

- Significant reduction of product overfill cost
- Compliance to legal fill requirements
- Standardized and simplified processes
- Online monitoring and alarming
- Short reaction time in production
- Automated reporting
- Scalable system implementation and enhancement
- ERP integration
- 21 CFR Part 11 compliance functionality
- Validation for regulated environments possible
- Fast ROI

OIML

ISO certified

GMP

GLP

Updated statistics are immediately available on all stations after the sample was taken. Online alarms inform about processes, which run out of specification.

This gives you the possibility to intervene while the production is running and to save a batch from rework or even having to scrap it. As all data is stored on the central SQL database, it only needs a mouseclick to retrieve historical production data for assessment or documented evidence for customers or government authorities.

FreeWeigh.Net® compact
Get ready to grow!

If you only need one SQC station, but don't want to forgo the convenience and opportunities offered by a PC-based system, FreeWeigh.Net® Compact is the right solution.
FreeWeigh.Net® Compact is a fully equipped SQC system for one single station, but expandable with optional modules like the networked brother system.

If later distributed data acquisition is needed, METTLER TOLEDO offers an affordable upgrade package.

www.mt.com/freeweighnet
www.mt.com/sqc

SQC Stand Alone Systems
Optimum Control at minimum Cost

SQC stand alone systems are compact quality control solutions for fast and reliable filling control and statistics. They are "out of the box" quickly installed at the place they are needed, have a small foot print and are efficient in operation without the need for extensive trainings. Because the entire SQC intelligence and the article database are built-in they don't require any networking infrastructure or computers, which make them very flexible in operation.

The various models can manage from 16 to 300 different articles, which are defined ready for sampling in no time at all. Mandatory limits are covered by defaults and other tolerances can be defined manually. Sampling and statistics reports are instantly available in clearly readable reports printed on the connected printer.

If wished they can be occasionally connected to a personal computer for data backup and archiving by means of the Backup/Restore software, which allows convenient data transfer and further handling of the collected data.

SQC16 – the Industrial SQC Balances/Terminals

Models	**BBA462SQC, BBK462SQC, IND469SQC**
Capacities (kg)	BBA/BBK: 3–35kg IND terminals: analog & ID-Net platforms up to over 100kg
Readability (g)	From 0.01 up to 0.1
Protection	Up to IP69k
Display	Backlit graphic display
Interfaces	3× RS232, PS/2
Options	Internal calibration weight and internal battery, Ethernet and WLAN interfaces
Accessories	Printers, barcode reader and relay box (LC I/O), PC backup/restore program (BR16)
Applications	SQC and simple weighing
Operation	Menu guided via keypad
Languages	German, English, French, Italian, Spanish, Dutch, Czech, Slovak, Hungarian, Polish and Slovene
Article memories	300
Users	1 balance supervisor and 16 SQC operators or administrators
Special features	• 2nd tolerance system for export • Shared statistics for multiple articles • Global density groups • Warnings and adjustment instructions • Backup of article and statistical data on PC

Please see pages 38–41, 46–51 for further information about BBA/BBK IND4xx industrial balances and terminals

SQC14 – the SQC Printer

Models	**SQC14/16, SQC14/60**
	Printer with integrated SQC application and own keypad
Interfaces	RS232 and LocalCan
Applications	SQC or simple printing
Operation	Data entered on printer keypad and shown on balance display
Article memories	16 or 60
Special features	• Connection of large selection of balances • Operation with LV11 tablet feeder • Pharmaceutical tolerance system

SQC-XP – the SQC Software for XP Balances

Models	**XP precision and analytical balances**
Capacities	26g–64kg
Readability	From 0.001mg up to 1g
Protection	Up to IP54* (*in use)
Display	Color touch screen display
Interfaces	Standard: 1× RS232 Option: add. RS232, LocalCan, Bluetooth
Accessories	Tablet feeder (LV11), printers, barcode reader, relay box (LC I/O) and PC, backup/restore program (BRXP)
Applications	SQC, weighing, piece counting, percent weighing, density determination, statistics, formulation, dynamic weighing, differential weighing
Operation	Menu guided via touch screen display
Languages	German, English, French, Italian and Spanish
Article memories	100
Users	8 different users, individually configurable access rights
Special features	• Program for installing on any XP balance • 2nd tolerance system for export • Shared statistics for multiple articles • Global density groups • Warnings and adjustment instructions • Pharmaceutical tolerance system • Operation with LV11 tablet feeder • PC data backup and article configuration • Support for A4 printers

LV11 – the Tablet Feeder

For automation of large sample sizes in the pharmaceutical industry

Interfaces: RS232, LocalCan

Accessories: Doors with opening for XS/XP analytical balances and for Pro draft shield of XS/XP precision balances

www.mt.com/sqc

FormWeigh.Net®

Speed and Reliability
for perfect Mixtures

Would you like to get your formulation processes completely under control and avoid wasting valuable raw materials?

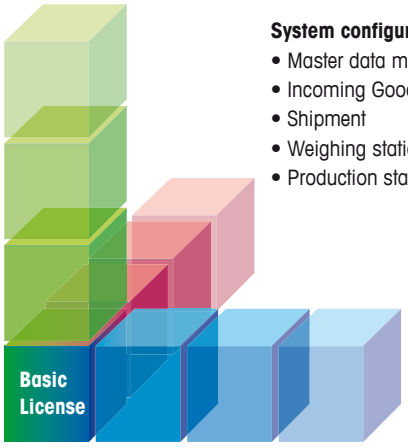
FormWeigh.Net® is the answer. This solution from METTLER TOLEDO combines powerful formulation software with reliable weighing technology and leading-edge IT for optimal process control. It meets the stringent requirements of the pharmaceutical industry while effectively supporting the operator's daily routine. The speed achieved by FormWeigh.Net® without sacrificing reliability makes it suitable for a wide variety of industries. Whether used as a standalone weighing station or an ERP integrated complete solution, its modularity offers highly flexible expansion support and easy upgrading to the next level of functionality.

Incoming Goods

Weighing station 1

Weighing station 2

Functionality
- Batch control
- 21 CFR Part11
- Active ingredients
- Warehouse



System configuration
- Master data management
- Incoming Goods
- Shipment
- Weighing station
- Production station

Integration
- SAP
- Warehouse
- Database
- ASCII

Standard Software for individual Needs

The modularity of FormWeigh.Net® caters ideally for individual needs. The versatility of this METTLER TOLEDO product, which is achieved through combination of a whole series of carefully matched function modules, has major advantages in meeting stringent quality specifications in diverse production environments.

FormWeigh.Net® is also readily scalable in terms of the number of stations. Larger networked systems based on the company LAN combine central data management, paperless formulation and menu-driven production prompts with the use of decentralized weighing stations. Just one key benefit is the fact that management is kept continuously informed about the production and quality situation.

Mix it up without getting mixed up

To start with, simple and intuitive prompts guide the operator through the weigh-in process step by step. And then FormWeigh.Net® automatically checks the individual entries against preset criteria to ensure, for example, that the raw material is correct or its batch still in date. If the weighing order contains an active ingredient, the necessary correction to achieve the target weight is automatically calculated for the batch being used. During the actual weighing process only weight values within tolerance can be transferred. If too much of one ingredient has been weighed in at any stage, linear correction can be applied to the others to guarantee reproducibly high quality.

FormWeigh.Net® offers:

- Graphical support to avoid incorrect mixtures
- Prevention of material wastage
- Right mixture reliably documented
- 21 CFR Part 11 readiness
- Automatic calculation of active ingredients
- Acquisition and verification of batch information
- Clear, concise representation of the weighing process
- Maximum process reliability
- Seamless traceability
- Validation support
- Automatic dosing
- Fast ROI (<12 months)

Master data management

Integration

Production

MS SQL server

Integration into ERP Systems

The ERP gateway for FormWeigh.Net® allows simple, automatic exchanging of data between FormWeigh.Net® and the production planning function of a host or ERP system. The data can be exchanged either via the certified SAP interface or by means of ASCII file transfer or database synchronization.

To eliminate potential entry mistakes the order data, parts lists and inventory information can be transferred from the production planning system to the weighing system and the consumption data reported back.

FormWeigh.Net® compact

Your investment future-proofing FormWeigh.Net® Compact stand alone solution can be readily expanded to several stations at any stage.

www.mt.com/formweighnet
www.mt.com/formulation

When speed to Market is a Must

The old adage "Time is Money" has never resonated louder than it does today amongst manufacturing communities. Speed to market is critical!

Batching, blending, formulation and fillings systems traditionally take time to move through the four classical stages of a project – design, installation, calibration & commissioning. This frequently slows down a market entry, or an adaptation to a changing market. Trying to navigate these stages impacts many startup ROR (rate of return) calculations negatively.

Enough is enough! Things have changed for small to medium batching or filling operations. A pre-engineered, off-the-shelf system specifically designed to accelerate the design and startup phase is now available. In addition, this system utilizes mathematical, adaptive, real time modeling to speed up the calibration and commissioning phase.

The result...

Less Time and Money on the Project

Q.bATCHcompact

A fully configurable pre-engineered batch controller. The perfect manufacturing tool for manufacturers who don't want to be "programmer" dependent, or for whom speed to market is a must. Satisfying the needs of small to mediumbatch or filling applications, the Q.bATCHcompact takes full advantage of the embedded features of the Q.iMPACT Lite and Compact matrollers, and installs in days not weeks

Models	Q.bATCHcompact
Resolution	Scales – 1 000 000d/100 000e (approved) Flow Meters – as per resolutions of attached device
Dimensions (W×D×H, mm)	610×381×610
Display Options	4 Line Backlit LCD Vacuum florescent, upper: 7-digit, 7-segment, 13 mm; lower: 16-char., 5× 7 dot matrix, 6 mm
Housing	Panel, stainless steel harsh
Keypad	QWERTY K/Board
Protection	IP65
Interfaces	Ethernet with internal webserver, RS232c, RS422/485, optional: ControlNet/Ethernet IP, Profibus®DP
Power	Autosensing 110–240V AC @50/60Hz
Applications	Sequential and simultaneous, Multi-Scale and/or Multi-Flow Meter measurement filling, dosing, blending and batching applications. Configurable material feed, event and timer recipe steps. Recipe management, storage, editing and production, consumption and batch reports. Matroller resident batch executive with a max. of 15 outputs and 4 inputs.
Accessories	Analog, Dual analog, Analog reduced excitation, Dual analog reduced excitation, IDNet, POWERCELL®, PCJagBASIC EDITOR, Flow meters (pulsed output only), Multifunction I/O, ControlNet/Ethernet IP, Profibus®DP
Number of attachable platforms	Up to 12 devices; 1–4 scales or 1–12 flow meters; additional I/O (avail. on request)

More Time and Profit in Production

Q.iMPACT®
Material Transfer Controller

The worlds most advanced family of material transfer (feed) controllers. Optimize your batch, blending and filling control operations. The Q.iMPACT pro, lite and compact matrollers leverage the flexibility of the JagXtreme® application terminal features and functions, then further supplement its capability with a robust, tried and tested set of 21 embedded material feed functions, making the matrollers dream "integration devices" for System Integrators and OEMs.

Models	Q.IMPACT pro/lite/compact
Resolution	Scales – 1 000 000d/100 000e (approved) Flow Meters – as per resolutions of attached device
Dimensions (W×D×H, mm)	210×236×321
Display	Vacuum florescent, upper: 7-digit, 7-segment, 13mm; Lower: 16-char., 5× 7 dot matrix, 6mm; Optional user configurable graphic display
Housing	Panel, stainless steel harsh
Keypad	Numeric – QWERTY interface
Protection	IP65
Interfaces	Ethernet with internal webserver, RS232c, RS422/485, optional: ControlNet/Ethernet IP, Profibus®DP
Power	Autosensing 110–240V AC @50/60Hz
Applications	The matrollers feature 2 embedded optional manufacturing "productivity optimizers", PAC (Predictive Adaptive Control) algorithm for simple, low cost automation, accurate feeds at constantly high speed feeds rates, overlapping feed algorithm for short batch cycle times. Simultaneous, Multi-Scale or Multi-Flow Meter measurement. **Applications:** Filling, Dosing, Blending, Batching
Accessories	Analog, Dual analog, Analog reduced excitation, Dual analog reduced excitation, IDNet, POWERCELL®, PCJagBASIC EDITOR, Flow meters (pulsed output only), Multifunction I/O, ControlNet/Ethernet IP, Profibus®DP
Hazardous area approval	ATEX Cat 3 (G/D). Zone 2, 22 ATEX Cat 2 (G/D)
Number of attachable platforms	Up to 12 devices; 1–4 scales or 1–12 flow meters; Pro matroller models can be clustered together for up to 200 total devices per cluster

www.mt.com/qi

The right Solution
for your hazardous Area Needs

Anywhere you find a hazardous area we make our experience and knowledge of Ex solutions count. With the largest range of hazardous area weighing solutions on the market we are confident that we can find the right solution for your need.

Explosive areas need special consideration, but performance need not be compromised

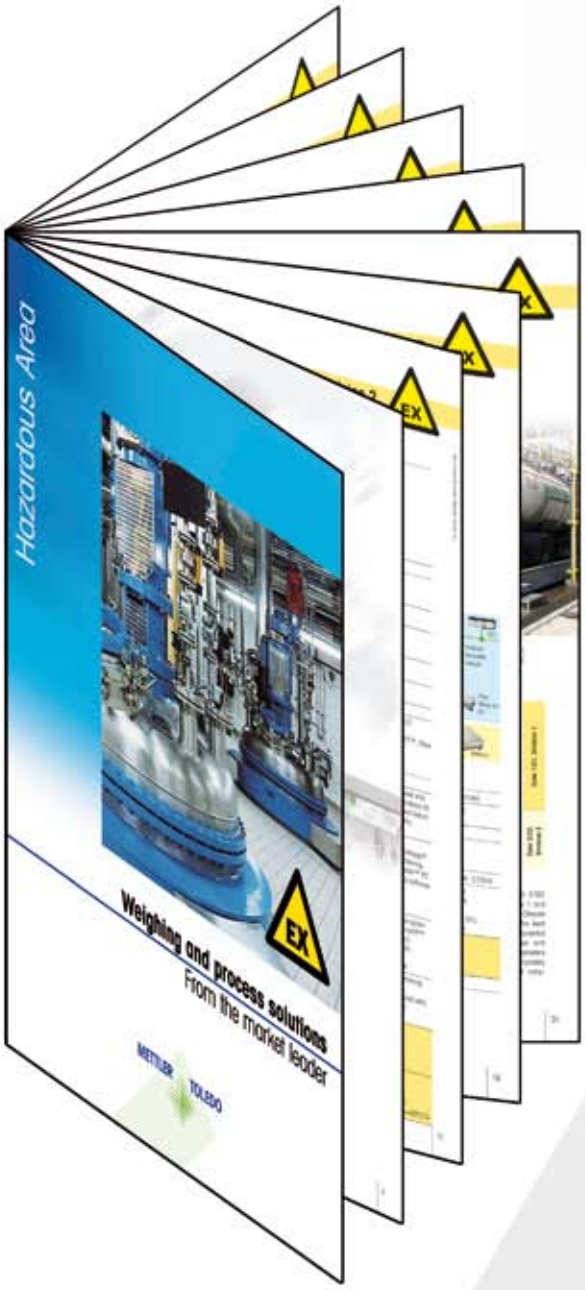
At METTLER TOLEDO we understand that in potentially explosive areas the need for accurate and reliable weighing is not reduced. That's why we have built the most extensive range of hazardous area (Ex) products available. These products are not only designed to fulfill the latest safety legislation but also designed to perform to the same weighing accuracy standards that are found in non hazardous areas. In short, we believe that there should be no compromises when moving from a safe to a hazardous area.

Our extensive range of explosive area industrial terminals provide high speed process control for automated processes or multiple scale and ERP integration for manual or semi manual processes. Choose from a range of compact, bench, floor and custom scales as well as load cells and vehicle scales up to 300 tons. Our products offer the flexibility of mobile battery operation and/or fixed, power supplies and enclosures. What ever your need, METTLER TOLEDO can provide a solution without compromising performance.

Courtesy Clariant

Hazardous Area Catalogue

METTLER TOLEDO has created a special hazardous area catalogue providing detailed information on hazardous areas and on the METTLER TOLEDO range developed to meet the requirements of our customers.



For more information on potentially explosive areas and the solutions from METTLER TOLEDO please log onto

▶ www.mt.com/hazardous

and request your copy of our Hazardous area catalogue

Pioneering Technology, flexible and fit for Industry!

The application terminal ID30 sets new standards, even in highly complex weighing operations. A perfect combination of PC and scale – elegantly industrial!

- **Ergonomic workplace layout increases efficiency**
- **Provides the exact solution to your specific task**
- **Open interfaces, e.g. USB**
- **Leading software technologies**
- **Powerful, dependable, industrial quality**
- **All-round IP69k protection**
- **Suitable for all industries**

IP69k

Human/Machine Interface (HMI box)
The extremely clear TFT display of the HMI box can be read easily and distinctly from any angle. To protect it against impact and water, the display is covered with industrial-grade safety polycarbonate. A touch-screen is standard (17") or optional (12,1").

Flexible and ergonomic
The ID30 comprises an elegantly slim flat screen and a separate ELO box. Both components are connected only by a single cable. This allows a highly flexible and ergonomic workplace design. At the touch of a button, the HMI box can be tilted to 6 different angles from the vertical in steps of 15°, to suit the individual working position for convenient operation and certain reading. Optional adapters also allow horizontal swivelling.

The PC
The electronics (ELO) box contains all the weighing and PC technology and instruments such as scales, printers, etc. or your local network can be connected.

One for all – a single Design for use everywhere!
In new industrial plants, instruments are designed to be optimally suited to their use. If procedures change, the weighing equipment also has to be modified. The ID30 terminal provides the flexibility you need for weighing station layout with just one single design. Combined with a range of stands and fastening elements, the ID30 can be mounted on a bench or wall, stand alone on the floor, or be built into a control cabinet.

ScaleXPlorer – Standard Application included
The multilingual ScaleXPlorer software is a universal weighing and service program for solving fundamental weighing tasks. It provides a first weighing solution for customers, but also supports weights and measures inspectors and METTLER TOLEDO service technicians.

Worldwide Connectivity
The use of Windows operating systems allows remote configuration and maintenance of your application on the ID30. Software updates and e-mail services are provided on the Internet.

Demanding Solutions – easy Implementation
When an off-the-shelf application solution is no longer adequate, you can create your own. Microsoft ActiveX® technology is always available to provide software developers with an ideal tool for rapidly and efficiently implementing a tailored solution. Irrespective of your development environment, you have easy drag and- drop access to a multitude of system and weighing functions.

Key Information at a Glance
All scale data and weight values are clearly displayed in a certifiable software window. This window is always visible adjacent to the current application, allowing constant monitoring of the data processed in the application.

Scalable Performance protects your Investments
Modularity is the basic principle of ID30. Select the components based on performance and price to meet the specified requirements. If they change over time, these components can be easily replaced. This ensures the long-term value and functionality of your investment.

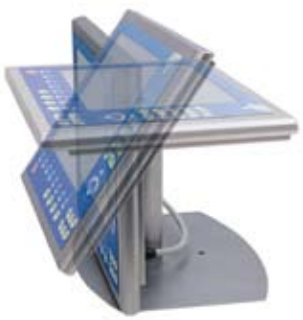
ID30
PC Application Terminal

Real-time core for time-critical Control Operations

The enhanced scale processor (ESP) of the ID30 can take over autonomous control of weight-dependent operations. A connected dispensing system still turns off correctly, even if the operating system has to handle another task just at that moment. This is especially beneficial in fast or automated processes where safety is paramount. In some cases, this functionality can even eliminate the need for connection to an SPC.

Resolution (approvable)	Depending on connected scale
Dimensions (H×W×D)	HMI-Box (incl. desk stand): – 12,1''-version: 298×393×200mm – 17''-version: 385×506×200mm ELO-Box: 250×124×400mm
Display	Active color TFT-LCD displays: 12,1'', SVGA 800×600; 12,1'', XGA 1024×768; 17'', SXGA 1280×1024. A touch-screen is standard (17") or optional (12,1"). Display cover: non-reflecting, scratch-resistant safety polycarbonate
Keypad	Action-point membrane keypad with tactile keystroke; enclosed, smooth surface of durable polyester, scratch-resistant; numeric keypad, 4 cursor and 8 function keys as well as Windows- and weighing specific keys
Housing	Stainless steel
Protection	Completely IP69k
Interfaces	COM 1...10, a wide selection of common interfaces and networks incl. WLAN, display & network interfaces, serial & parallel interfaces, platform interfaces, digital I/O interfaces
Applications	Extremely flexible and adaptable to customer-specific requirements.
Special features and functions	ScaleXPlorer standard application included: universal weighing and service program with DeltaTrac® for dispensing, classifying, checkweighing and fixed-value memory for tare values, texts or DeltaTrac®.
Accessories	Display interface: VGA Serial interfaces: CL20mA, RS232, RS422/485, USB Parallel interface: Centronics Network interfaces: Ethernet, WLAN Digital I/O interfaces: 4I/O, relay box 4, relay box 8 Mechanical accessories: Wall adapter, floor stand and panel mount kit; GA46 thermal printer Electrical accessories: CPUs, RAM memory modules, PCI expansion board
Number of attachable platforms	3: IDNet, Analog, SICS

Note: Microsoft®, Windows®, and ActiveX® are registered trade marks of Microsoft Corporation. Pentium® and Celeron® are registered trade marks of the Intel® Corporation.



A large range of interfaces allows you to choose your own communications solution

The working position you want – on bench or wall, always ergonomically tiltable

Power and Performance
for advanced Weighing Applications

The new Generation of applied Weighing Terminals:
- **Profit from technological leadership**
- **Benefit from flexibility without losing focus**
- **Optimize displayed information**
- **Improve speed and accuracy**
- **Minimize process time**
- **Minimize operating costs**

Increase Productivity while reducing operating Costs.

IP69k

Maximize Productivity
- The world's first weighing terminal using an embedded, CE-based operating system
- Minimize process time with the IND780 Multi Processor design, providing excellent A/D performance at 366 Hz including TraxDSP™
- Improve quality and consistency of products while reducing waste. TraxDSP™ (adaptive digital filtering technology) minimizes effects of environmental noise. Internal target comparisons occur at more than 50 times per second, helping to assure fast, consistent delivery of material
- FTP-based file transfers, e-mail messaging of errors. Standard or custom templates for various output formats help to assure that requested data is available wherever needed
- Built-in SQL-CE database allows easy and flexible access to internally stored data
- Improve the speed and accuracy of manual or semi-automatic operations with SmartTrac™. This feature offers three display modes to graphically show weight status to target
- Configurable graphic softkeys allow for single key press operation of important features and functions
- Wide range of communication options: 10/100base-T Ethernet connectivity, serial ports and a built-in USB Master. Optional: additional serial ports and a wide range of PLC interfaces
- Maximize uptime through calibration management and testing, secure access to the configuration of the terminal, logs to help diagnose problems and errors, and email notification of specific events

Minimize Operating Costs
- PC-based configuration tool InSite® supports off-line or ahead of time configuration respectively duplication of configuration for multiple installations and includes configuration of print templates
- TaskExpert®, the graphical flowchart-based programming environment to build on already owned applications or develop individual applications
- Multi-lingual operator interface helps to guide operator through complex or varying operating sequences
- Use of icons reduce training efforts
- Flexible options allow to configure the weighing terminal for the respective application
- MinWeigh® functionality helps to make sure proper procedures are followed
- Select combinations of METTLER TOLEDO scale technologies: Analog, POWERCELL®, WM/WMH Advanced Precision Weighing, IDNet, SICS or X-bases
- Fieldbus connectivity using popular networking protocols: Allen-Bradley® RIO, Profibus®, Modbus TCP, ControlNet™, EtherNet IP™ and DeviceNet™
- Use TraxEMT™ Embedded Maintenance Technician as a preventative strategy to predict and plan scale maintenance rather than having to react after a scale is already down

Transactional or process weighing applications? The IND780 is well equipped for both.

Transaction
- Multiple platform weighing including tare data and metrological sum all on one display
- Transmission of up to 10 output templates to printers or through Serial/Ethernet data protocols to other devices
- Manual filling or adding of ingredients using one of three SmartTrac™ graphical displays

- Validated precision weighing with programmable MinWeigh® minimum weight threshold
- Drive-780 vehicle application offers expanded tables, traffic light/gate control and the ability to integrate target control and vehicle weighing on one platform

Process

- True multi-tasking capability allows weigh-in or weigh-out sequences utilizing 2-speed feed, target and spill values on all 4 scales simultaneously
- Integrated display of current weight and rate data for each scale
- Powerful PLC communications capability including custom templating of data strings
- Control up to 40 inputs and 56 out-puts with internal latching for feed sequences

The IND780 is part of the new vanguard of weighing terminal solutions from METTLER TOLEDO. Similarity with other members of the terminal family assures familiarity of operation, reducing training and support costs. Scalability within the family allows you to select the solution that is right for you and your application requirements.

Beside its flexibility the IND780 is also offered with a number of focused solutions. For example, a vehicle application module allows you to use the IND780 as the solution for a wide variety of inbound and outbound truck weighing applications.

IND780

Industrial Terminal

Resolution (approvable)	OIML: Class II, III, IIII to 10000e; NTEP: Class II 100000d; III, IIIL 10000d
Dimensions (H×W×D)	Panel-mount: 220×320×105mm Harsh Env. Desk/ Wall: 200×299×235mm
Display	Backlit, Graphic, LCD, Monochrome or Active TFT Color; 320×240 pixels; 145mm (5.7in) QVGA
Keypad	30 tactile feel, membrane keys for numeric entry of data, control of scale functionality and navigation
Housing	Stainless steel
Protection	Harsh: IP69k; Panel:Type 4x/12 (IP65)
Interfaces	Ethernet 10/100-baseT, USB Master, Serial RS232 (Comm 1), Serial RS232/RS422/485 (Comm 2)
Applications	Freely programmable, Vehicle, TaskExpert™
Special features and functions	Basic Functionality incl. Step Calibration, CalFREE™ Calibration methodlogy; SmartTrac™ Display Modes; MinWeigh®; TraxDSP™ Digital Filtering, TraxEMT™ Maintenance Diagnostics Suite, InSite® Configuration Tool
Accessories	Optional communications interfaces: PLC (one option only): Allen Bradley® Remote I/O, ControlNet™, Ethernet IP, Profibus® DP; DeviceNet™ Modbus TCP; Serial (One or two): RS232/422/ 485 demand or continuous format; up to 115.2k baud Optional I/O Interfaces: Local: (2) 4 inputs/4 outputs (Relay); Solid state relay; Remote: (8) ARM100 I/O modules, 4 in/6 out
Attachable platforms	4: analog, POWERCELL®, IDNet, WM/WMH or X-bases, Sum
Hazardous area approval	Panel-mount: ATEX: II 3 G EEx nL [nL] IIB T4 II 3 D T85°C IP6x UL: Class I, II, III ; Div 2; Groups A–D, F, G/T4

www.mt.com/IND7xx

Tough enough for harsh Environments, sensitive enough to weigh and measure

Aggressive products to weigh? Harsh cleaning agents? In wet, corrosive or dust-laden surroundings? There's no reason not to expect reliably correct weighing results and trouble free operation. IND690 application terminals are ideal for any industrial environment due to the stainless steel construction.

- **Reliable results for production – 24 hours a day, 7 days a week**
- **Protection class IP69k – a match for the toughest working conditions**
- **Big Weight® display – bright, with graphics capability, even in poorly lit areas**
- **Top performance right from the start – with software pacs to go even higher**
- **Easily integrated, easily added to, all ready for your application**

IP69k
EHEDG
NSF
EN60950
GMP

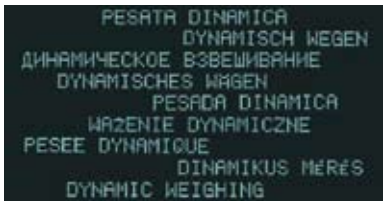
To see and be seen – with the patented Big Weight® Display*
Bright, fast and unmistakably clear, this active dot matrix display shows the result of the weighing operation. Readable from a distance, the amply sized Big Weight® display is a special feature for professional users. Protected behind scratch-proof safety glass, the display will not dim with the years. IND690 displays say it loud and clear. In many languages, it guides the user easily and reliably. Display of the current scale only or all scales at the same time.

1 Terminal, 2 Models, 3 Types of Installation
One is sure to be just right for your purpose. Protected to Class IP69k and made of stainless steel, the bench model is also ideal for wall mounting, thanks to the adapter that allows it to be tilted and turned. Cables can be hidden underneath for the best protection against dirt and damage. The built-in model is also uncompromising, featuring fast, universal installation, and maximum accessibility. Front side also IP69k and stainless steel.

Thick-skinned – but sensitive
The keypad's easy-clean membrane has a smooth surface and yet each entry is clearly felt. It meets every requirement of ergonomic design, hygiene and durability. Entering data also is possible with PC keyboard or barcode reader.

Interfaces for secure Connectivity
The basic version is ready to go with an RS232 data interface (e.g. to connect a printer). Up to eight more interfaces can be added easily and inexpensively for still greater modularity and flexibility.

IND690 – Connection to the World of Automation
The ProfibusDP-690 interface card enables the IND690 to be operated as a slave in Profibus-DP. Various functions are available to the user via the master PLC connected to the system. Here are a few examples:



Prepared for reading and writing

Open for connections

Built-in for system integration

- Simultaneous access to weight values of up to four connected weighing platforms (+ 1 sum-scale) and their operation (zeroing, taring, setting default tare value, etc.)
- Selection of keys, display of texts, processing of input-sequences
- Setting of threshold values, e.g. cut-off points when dispensing

Powerful Functions

All the usual weighing functions are just the beginning. Additional built-in functions such as MinWeigh®, auto tare, target memory, test function, DeltaTrac, date/time or product identification data simplify and refine your weighing jobs – even when working with up to 4 interlinked scales (+ 1 sum scale) simultaneous.

Customized Solutions

A professional PC development environment allows to design fully customized software pacs. The IND690sys offers many useful features like function library, programming directions and program examples. The development environment also includes drivers for all IND690 interfaces and standard peripheral equipment.

Applications made easy

Every weighing task has its own special features and requires specialist knowledge. This is where the application-specific software pacs can help you. This software is the result of close cooperation between experts in the industry and our development department:

- **Batching** (IND690batch)
- **Data Communication** (IND690com)
- **Formulation** (IND690form)
- **Formulation Management** (IND690formXP)
- **Totalization** (IND690sum)
- **Filling** (IND690fill)
- **Counting** (IND690count)
- **Checkweighing and classification** (IND690control)
- **Free programmable** (IND690sys)

IND690
Application Terminal

Corrosion-resistant – dustproof: The IND690 application terminal will withstand all industrial environments, whether the challenge comes from aggressive weighing samples, cleaning agents or a wet, corrosive or dusty environment. The IND690 will provide reliable, precise weighing results and error-free functions for years to come.

IND690xx
Hazardous Terminal

The powerful and rugged terminal for the usage in hazardous areas. As the IND690xx technology is state of the art of explosion protection technology, this terminal is approved according to the ATEX-guideline 94/9/EG and can be used in hazardous areas of zone 2 and 22. With the IND690xx terminal we are able to offer complete and reasonable solutions, without restrictions for hazardous areas.

Resolution (approvable)	Depending on connected scale
Dimensions (H×W×D)	Desk-/wall model: 354×219×165mm; Panel model: 355×205×100.5mm
Display	Active, bright VFD-dot matrix, graphics capability, green, patented Big Weight® display (weight display up to character height 35mm possible), screen size: 195×46mm
Keypad	Durable tactile membrane keypad with acoustic acknowledgement. Closed smooth surface of heavy duty polyester with raised buttons
Housing	Stainless steel
Protection	IP69k (Built-in model front plate only)
Interfaces	Standard: 1× RS232 (COM 1); Optional: COM 2…9 different interfaces, e.g. Ethernet, Profibus®, WLAN, Bluetooth
Accessories	Optional serial interfaces: CL20mA-690; RS232-690; RS485/422-690; Bluetooth-690; USB-690; PS2-690 Optional network interfaces: Ethernet-690; WLAN-690; ProfibusDP-690 Optional I/O interfaces: 4I/O-690; 4-690 relay box; Analog Output-690 Mechanical accessories: Wall bracket; Floor stand; Stand base; Adapter for printer as well as cover for bench and wall models AlibiMemory-690 for up to 675 500 weighings; Strip printer GA46 **Important note IND690xx:** The 4-690, 8-690 relay boxes and the GA46 printer are not designed for use in potentially explosive areas.
Number of attachable platforms	4: IDNet (max. 3); Analog (max. 2); SICS (max. 3)
Hazardous area approvals	**IND690xx:** ATEX: II 3 G EEx nAL [L] IIC T4 (Gas), II 3 D T70°C IP69k (Dust)

* Big Weight® is a registered trademark of Mettler-Toledo (Albstadt) GmbH. German Patent 197 32 659 European Patent 0 895 071

www.mt.com/IND6xx

Versatile and powerful
outstanding weighing Performace

The IND560 provides outstanding weighing performance for even the most difficult weighing applications. Choose conventional strain gauge or high precision electromagnetic force restoration weighing technologies. Specify direct PLC or PC communication interfaces, and digital I/O control. Combine these selections with the option of panel or desk/wall/column mounting, and the IND560 is the perfect match for most weighing applications.

- **Accurate, fast material transfer via high speed, configurable target control**
- **Powerful yet simple data integration via multiple fieldbus protocol options**
- **Reliable performance in the harshest of environments using TraxDSP™ filtering**
- **Easy integration into many applications with compact panel or wall mounting**

The IND560 is one of the most versatile weighing terminals. Choose from conventional strain gauge or high precision electromagnetic force restoration weighing technologies. Specify direct PLC/PC communication interfaces or digital I/O control. Combine these selections with either panel, desk, wall, or column mounting, and the IND560 is the perfect match for most weighing applications.

- Basic weighing
- General process weighing
- Filling and blending
- Formulation
- Over/under checkweighing
- Vehicle weighing und
- Dynamic Checkweighing

Weigh
Enhance your measurement or control applications with an ultra fast A/D conversion rate of 366Hz, TraxDSP™ digital filtering technology, and an I/O bus update rate of 50Hz. The IND560 delivers precise repeatable measurement data from milligrams to tonnes in a single cost effective package that easily integrates into existing systems.

Control
The versatile IND560 excels in controlling filling and dosing applications. It delivers best-in-class performance for fast, precise, accurate results in manual, semi-automatic, or fully automatic operations. For more advanced filling, the IND560fill application software adds additional sequences and I/O control options. Quickly configure standard filling sequences or create custom filling and blending applications without complex and costly programs.

Comply
The IND560 is designed specifically for industries subject to regulatory controls, such as pharmaceutical, chemical, food and beverage, and has been certified by multiple global agency standards including UL, CE, NTEP and OIML.

Connect
The IND560 offers multiple connectivity options to improve your applications. Direct PLC connectivity is available using 4–20mA analogue output, EtherNet/IP, Allen-Bradley RIO, Modbus/TCP, Profibus, EtherNet/IP or DeviceNet protocols. Interfaces are also available for serial data via RS-232/422/485 and Ethernet TCP/IP networking.

IND560
Weighing Terminal

Solutions for the harshest Environments

To withstand the environments of the pharmaceutical and chemical industries, the IND560 is assured Type 4/12 (Panel) and IP69k (harsh) protection categories. The needs of the food and beverage industries are also met. The unit's 304 stainless steel construction and polished, sanitary finish resist aggressive cleaning agents, high pressure and temperature cleaning requirements dictated by EHEDG and NSF guidelines.

Maintain Uptime and ensure System Quality

- TraxEMT™, the Embedded Maintenance Technician, sets the IND560 apart. Monitor and analyse system performance, enabling action before a failure occurs
- Advanced calibration options allow for the most cost effective operation. Use the automated 5-Point or Step Calibration routines for the highest accuracy. The exclusive CalFREE tecnology is available to get up and running without test weights
- The InSite® Configuration Tool provides connected or offline access to the IND560 terminal for efficient and repeatable setup. Quickly and accurately upload or download system parameters via a serial or Ethernet connection
- MinWeigh® functionality helps insure the weighing of your critical ingredients are always within acceptable limits by displaying a warning when the weight is below the minimum weight threshold.

Resolution (approvable)	100 000d / (approvable): Analog – 10 000e OIML, 10 000d NTEP; IDNet – 100 000d OIML, NTEP
Dimensions (H×W×D)	Panel-Mount: 265×160×91.8mm; Desk/Wall/Column-Mount (Harsh): 265×160×170.3mm
Display	Vacuum florescent, 21mm weight display, graphical 128×64 dot, SmartTrac™ display modes
Keypad	25-key tactile-feel keyboard with numeric keypad
Housing	Harsh – Stainless steel; Panel – Stainless steel faceplate, Aluminum chassis
Protection	Harsh: IP69k Panel:Type 4x/12 (IP65)
Interfaces	Com 1: RS-232/RS-422/RS-485, Optional Ethernet 10/100-baseT, plus 2 additional serial ports
Applications	Filling, Vehicle, Dynamic/In-Motion, Freely programmable via TaskExpert™
Special features and functions	Basic Functionality incl. Step Calibration, CalFREE™ Calibration methodology; SmartTrac™ Display Modes; MinWeigh®; TraxDSP™ Digital Filtering, TraxEMT™ Maintenance Diagnostics, InSite® Configuration Tool
Accessories	Optional communications interfaces: PLC (one option only): Allen Bradley® Remote I/O, EtherNet/IP™, Profibus® DP; DeviceNet™, Analog Output and Modbus®/TCP; Optional I/O Interfaces: Local: (1) 4 inputs/6 outputs, Max. 12 inputs/18 outputs. Use remote ARM100 modules, 4 inputs/6 outputs each.
Attachable platforms	1: analog, IDNet
Hazardous area approval	Harsh: ATEX: II 3 G EEx [nL] IIB T4 (Gas) FM: Class I, Div 2; Groups A–D, Class 1 Zone 2, Group IIC, T4 Panel: ATEX: II 3 G EEx nL [nL] IIB T4 II 3 D T85°C IP6x FM: Class I Groups A–D , Div 2; Class II Groups F, G, Div 2; Class III ; Div 2; Class 1 Zone 2 Group IIC, T4

www.mt.com/IND5xx

Tough Terminals
for Speed and Accuracy

Choose a process instrument oriented to "real" working environment and certified industry standard interfaces for quick and robust connectivity. Speed up your processes and profit from the performance of these certified instruments.

ID7sx
Control Terminal

The weighing terminal ID7sx is made for use in hazardous areas. It is used for the record of weight values on a built-in liquid crystal display (LCD). All electrical switching circuits are intrinsically safe. The ID7sx enables the connection of up to three weighing platforms. In addition, up to three intrinsically safe data communication interfaces are available.

Resolution (approvable)	Analog: 7500e OIML SR, 3× 3000e OIML Multi Interval; Digital: 15 000e/32 000e OIML SR; Non-approved: up to 1 500 000d (dep. application)
Dimensions (W×D×H)	362×250×203mm
Display	Display field 132×39mm, 240×64 pixels; Backlit LCD with graphics capability; Char. height max. 25mm
Keypad	Foil keypad
Housing	Stainless steel
Protection	IP65/66
Interfaces	3 serial interfaces; CL 20mA a/o; RS232; 8 inputs and outputs
Power	PSU/ID…-Ex: with interfacing capabilities installed in safe area 100–240V AC (50/60Hz); PSUx: installed in hazardous area 100,120, 230V AC (50/60Hz)
Applications	Stand alone and networked formulation; Single-material and multi material filling; manual; automatic or semi-automatic; Bachting; Blending
Special features and functions	Versatile functions because of different software modules (BASE, DATA, DOS, Form XP, SYS); In-motion weighing functionality; Stability detector; Vibration control; Setpoint control
Accessories	Software pacs; serial interface cards; digital I/O module; barcode reader kit; profibus DP interface card; Wide range of mechanical accessories
Number of attachable platforms	PSU/ID…-Ex: 3 (analog platform, 4× 350Ω load cells, a/o digital hi-resolution platform) PSUx: 1analog platform or 4× 350Ω load cells or 1 digital hi-resolution platform
Hazardous Area approval	ATEX: II 2 G EEx ib IIC T4 II 2 D IP65 T55°C
	FM: IS Class I, II, III, Div 1, Groups A–G/T4

ID3sTx/Puma
Hazardous Terminal

The ID3sTx and Puma terminals combine simplicity, flexibility and more in an intrinsically safe design to provide the most reliable, cost-effective solution for hazardous area weighing needs.

4000e SR (OIML), 5000d SR (NTEP)

IND310drive
Vehicle Scale Weighing Terminal

The IND310drive vehicle terminal is designed to help the operator increase their efficiency via a crystal-clear display and QWERTY keyboard. Process trucks quickly and accurately according to your desired operation. Customer-configured print templates.

6000e OIML, 10000d NTEP

IND135
POWERCELL® Terminal

The IND135 provides the simplist connection from your PC, or OverDrive software to a POWERCELL® brand load cell network load cell network.

6000e OIML, 10000d NTEP

254×183×146mm	300×270×190mm adjustable tilt angle	180×280×50mm
Weight display: 6 digit, 25mm. LCD with clock, ID, low battery, comma, decimal point	Bright monochrome graphic LCD (300×240 pixels)	6 Character, 12mm yellow LED
Hardcoated polyester overlay; 20 keys; numeric keypad	Function and navigation, customer defined	PC controlled keyboard
Stainless steel	Polished, stainless steel	Rugged 304L stainless steel – wall mounted
IP65 (NEMA 4X)	IP69k, desk or wall mounted	Splash proof – indoor use
2-optional, bi-directional fiber optic ports; CL 20mA, RS232	RS232, Ethernet, RS422	USB, RS232, RS485 – Ethernet Option
Many variants e.g. 230V AC, 110V AC, 24V DC; for mobile weighing external/internal battery	Universal AC Supply optional booster	Universal External AC Power Supply
Weighing in hazardous area; Simple manual filling; Pallet truck scales; Mobile scales; Simple material filling control over external setpoint controller	Vehicle In/Out, Alibi, user defined data management	Vehicle weighing, optional hazardous area capability
Fiber optic data communication; Setpoints; Selectable Filtering/Update Rate; High visibility display; Unit switching	–	–
Fiber optic cable (300m); Serial ports; Setpoint controller	PC connection to OverDrive® InSite®; MT Connections, Remote displays, printers, USB QWERTY keyboard, Hazardous area barrier	PC connection to OverDrive® InSite®; MT Connections, Remote displays, printers, Hazardous area barrier
1, up to 4 analog load cells	1–2 Platforms, POWERCELL® Network up to 24 cells or analog load cells	Single Platform, POWERCELL® Network up to 14 cells
ATEX (ID3sTx): II 2 G EEx ib IIC T4 II 2 D IP65 T50°C	–	–
FM (Puma): IS, Class I, II, III, Div 1, Groups A–G/T4A, Ta=40°C	–	–

Protected, universal and flexible

The IND429/439/449/469 weighing terminals are designed to meet the requirements in the food-, chemical- and pharmaceutical industries. The stainless steel housing and the IP69k protection make it the ideal solution for dusty and heavy wash-down conditions. The new colorWeight® display delivers quick and easy recognizable results. Certificates from NSF (National Sanitation Foundation) and EHEDG (European Hygienic Engineering and Design Group) are available to testify that the hygienic design criteria have been fulfilled.

IND429
Basic Level

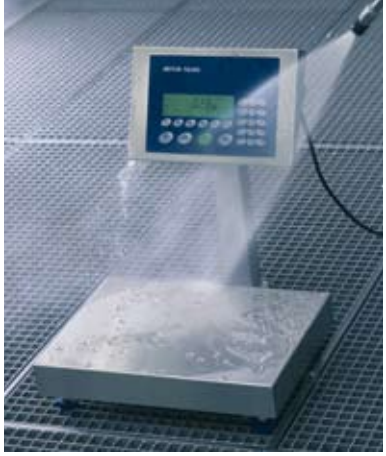
The IND429 is the perfect solution if you are looking for a weighing terminal which is easy to use and to clean. The whole assortment of METTLER TOLEDO platforms can be connected using the integrated A/D converter or the digital IDNet scale interface.

colorWeight®

Chechweighing, portioning

Parts counting

Resolution (approvable)	7500e analog, 100 000e IDNet
Dimensions (H×W×D)	289×129×180mm
Display	Backlit 7-digit/7-segment LC display, digit height 16mm
Keypad	Foil-keypad, 6 keys, tactile-touch membrane keypad, scratch-resistant labelling
Housing	Stainless steel
Protection	IP69k
Interfaces	RS232 (standard), optional: RS422, RS485, Ethernet, WLAN, USB (Slave), Digital I/O
Applications	Weighing, Dynamic weighing
Special features and functions	Unit switching; MinWeigh®
Accessories	Auxiliary display; Protective cover; Wall adapter; Columns; GA46 thermal printer; Relay box; Internal Battery; External power supply 12–24V DC
Number of attachable platforms	1
Hazardous Area approval	Cat 3GD



IND439
Count/Check Level

Over/under checkweighing or counting are the main applications of the IND439 terminal. The IND439check offers you a innovative, easy to recognize +/- indication: colorWeight®, a multicolour backlit display. The entire area of the display will change the colour if you reach the target.

IND449
Count+/Check+ Level

The IND449 offers you a very comfortable solution for counting or over/under checkweighing. The numeric keypad enables easy access to the memory and a convenient way to enter tare- or target-weights.
The IND449check+ offers you not only the colorWeight® functionality but also the take-away modus which allows a semi-automatic weigh-out and tolerance check procedure.

IND469/IND469SQC/IND469rem
Smart Statistical Quality Control

Beside high end solutions for counting and checkweighing this terminal is also designed for Statistical Quality Control applications in challenging environments. Whether used as SQC Compact Solution (IND469SQC) or as compact testplace terminal for FreeWeigh.Net® (IND469rem), it provides state-of-the-art user convenience and ease-of-use together with outstanding possibilities for legal net content control, e-marking and filling optimization.

7500e analog, 100 000e IDNet	7500e analog, 100 000e IDNet	7500e analog, 100 000e IDNet (approvable)
289×129×180mm	289×129×180mm	289×129×180mm
Backlit 7-digit/7-segment LC display, digit height 21mm, bargraph IND439check: Multicolor backlit for over/under checkweighing	Backlit 7-digit/7-segment LC display, digit height 21mm, bargraph IND449check+: Multicolor backlit for over/under checkweighing	Active-dot-matrix LCD (235×64 pixels)
Foil-keypad, 10 keys, tactile-touch membrane keypad, scratch-resistant labelling	Foil-keypad, 25 keys, tactile-touch membrane keypad, scratch-resistant labelling	Foil-keypad, 25 keys, tactile-touch membrane keypad, scratch-resistant labelling
Stainless steel	Stainless steel	Stainless steel
IP69k	IP69k	IP69k
RS232 (standard), optional: RS422, RS485, Ethernet, WLAN, USB (Slave), Digital I/O	RS232 (standard), optional: RS422, RS485, Ethernet, WLAN, USB (Slave), Digital I/O	IND469SQC: 2 RS232 + PS/2 (standard) Optional: Ethernet or WLAN instead of 1 RS232 IND469rem: RS232 + Ethernet + PS/2 (standard) Optional: WLAN instead of Ethernet
IND439: Weighing; Dynamic weighing; Simple Counting IND439check: Over/under checkweighing	IND449: Weighing; Dynamic weighing; Advanced Counting, Totalizing IND449check+: Over/under checkweighing and checkcounting, classifying, TakeAway function	Test station for SQC either with built-in database (IND469SQC) or remotely connected to FreeWeigh.Net® (IND469rem)
Unit switching; MinWeigh®	Unit switching; MinWeigh®, Date/Time; Identification	IND469SQC: Built-in SQC solution for 300 products (SQC16). IND469rem: Built-in terminal functionality for control by FreeWeigh.Net®
Auxiliary displays; Protective cover; Wall adapter; Columns; GA46 thermal printer; Relay box 4; Internal Battery; External power supply 12–24V DC	Auxiliary displays; Protective cover; Wall adapter; Columns; GA46 thermal printer; Relay box 4; Internal Battery; External power supply 12–24V DC	Printers, Connection cables, Columns 330/660mm, Wall adapter, Protective cover, SICS manual 4 Series (Engl.), Relay box LC-IO (IND469SQC), Mini keyboard PS/2 (US layout), Protective cover mini keybd., PS/2 Barcode reader, Int. battery, Ext. power supply 17–24V DC
IND439: 2; IND439check: 1	IND449: 2; IND449check+: 1	1
Cat 3GD	Cat 3GD	Cat 3GD

www.mt.com/ind-hygienic-design
www.mt.com/over-under-checkweighers
www.mt.com/IND4xx

From Milligrams to Tonnes

The terminals of the 4series offer the ideal solution for any application in which simple weighing, counting, totalizing and check-weighing are key. They are optimized for quick and easy applications.
The clearly-structured large format keys with tactile feedback are combined with the easy-to-read LC display, for clear and fast results. These are devices which couldn't be easier to use.

IND425
Basic Level

IND425, the "basic" level solution is optimized for quick and easy weighing applications. Six clearly-structured large format keys with tactile feedback are combined with the easy-to-read 7-segment backlit LC display for clear and fast results.

Resolution (approvable)	300 000d (7500e, OIML/10 000d, NTEP)
Dimensions (H×W×D)	277×200×71 (277×200×120, incl. optionbox for internal battery)
Display	Backlit 7-digit/7-segment LC display; Character height 16mm
Keypad	6 keys: ON/OFF, Reset, Tare, Clear tare, Transfer, Change unit
Housing	Aluminum diecast
Protection	IP65 (EN60529)
Interfaces	RS232; 2nd interface optional: RS232, RS485, USB, Ethernet, digital I/O
Applications	Simple Weighing, Dynamic weighing
Special features and functions	Unit switching, MinWeigh®
Accessories	Printers, Auxiliary displays, Relay box 4, Connection cables, Protective cover, Colums 330/660mm, Wall adapter, Internal battery, External power supply 12–20V DC
Number of attachable platforms	1

IND435 Count Level	**IND445** Count+ Level	**IND465** Smart Level
The IND435 with its 10 function keys is designed specifically for reliable, easy and fast counting. It makes counting of even small items a child's play. The analog reference scale interface, which is available as an option, can be used to connect an analog weighing platform in order to create a cost-effective reference scale counting system.	Counting, totalizing and checking – the IND445 has it all in one device. The numeric keypad supports the simple direct input and storage of tare values, item weights, IDs and target values. Simple and easy to use, the IND445 with its "count+" level has a solution for every requirement.	The IND465 is certifiable and GMP-certified. However diverse or complex your everyday tasks might be, you will always have the ideal solution with the Smart Level of the IND465.
300 000d (7500e, OIML/10 000d, NTEP)	300 000d (7500e, OIML/10 000d, NTEP)	300 000d (7500e, OIML/10 000d, NTEP)
277×200×71 (277×200×120, incl. optionbox for internal battery or analog reference scale interface)	277×200×71 (277×200×120, incl. optionbox for internal battery or analog reference scale interface)	277×200×71 (277×200×120, incl. optionbox for internal battery or analog reference scale interface)
Backlit 7-digit/7-segment LC display; Character height 21mm	Backlit 7-digit/7-segment LC display; Character height 21mm	Active-dot-matrix LCD (235×64 pixels)
10 keys: ON/OFF; Reset; Tare; Transfer; Toggle gross/net; High resolution; Toggle scale 1 and scale 2; Toggle count and weigh mode; Ten's reference, Variable reference	25 keys: ON/OFF; Reset; Tare; Transfer; Info; Toggle scale 1 and scale 2; Toggle count and weigh mode; Display item weight; Ten's reference; Variable reference; Memory; ID; +/-; Delete; Numeric keypad	25 keys: ON/OFF; Reset; Tare; Transfer; 6 free definable function keys (soft keys); Call database; Toggle: Upper/lower case; Delete; Info; Alphanumeric keypad
Aluminum diecast	Aluminum diecast	Aluminum diecast
IP65 (EN60529)	IP65 (EN60529)	IP65 (EN60529)
As IND425; additional optional analog reference scale interface	As IND425; additional optional analog reference scale interface	3 RS232, 1PS/2; optional: 2 RS232 + RS485/ Ethernet/USB/analog/digital I/O + PS/2, 1 RS232 + RS485/Ethernet/USB/digital I/O + analog + PS/2
Weighing, Dynamic weighing, Simple Counting	Weighing, Dynamic weighing, Advanced Counting, Accumulating, Checkweighing	Weighing, Dynamic Weighing, Advanced Counting, Accumulating, Checkweighing, Filling to target weights/quantities
Unit switching, MinWeigh®, Simple 2nd scale capability	Numerical definition of tare weights, 100 memory locations for tare weights, Target weights/quantities, Date, Time, Identification, Unit switching, MinWeigh®,	Freely configurable operating sequences, Freely definable units, Label printing, Database for 1500 articles, Alphanumeric data input, Date, Time, Identification, Softkeys
Printers, Auxiliary displays, relay box 4, connection cables, colums 330/660mm, wall adapter, protective cover, SICS Manual 4 Series (English), Internal battery, External power supply 12–20V DC	Printers, Auxiliary displays, relay box 4, connection cables, colums 330/660mm, wall adapter, protective cover, SICS Manual 4 Series (English), Internal battery, External power supply 12–20V DC	Printers, label printer, Auxiliary displays, relay box 4, connection cables, colums 330/660mm, wall adapter, protective cover, SICS manual 4 Series (English), relay box, mini keyboard PS/2 (USA), PS/2 barcode reader, SmartManager software, Internal battery, External power supply 17–24V DC
2	2	2

Transmitting of Weighing Results made easy

To meet your measuring needs from simple weighing to complex weighing solutions – METTLER TOLEDO offers an extensive range of weighing terminals. Select from a variety of human machine interface levels and application software, designed for your process.

Resolution (approvable)

Dimensions (H×W×D)

Display

Keypad

Housing

Protection

Interfaces

Power

Applications

Special features and functions

Accessories

Number of attachable platforms

PTPN
Process Weighing Terminal

The PTPN terminal is a compact, easy-to-use weighing terminal. The PTPN terminals are available in both harsh environment and panel-mount enclosures. They can be integrated with process control equipment through a variety of methods, including discrete I/O, analog output, Allen-Bradley® RIO, Profibus®, and DeviceNET™.

10 000d (3000e OIML, 10 000d NTEP)

92×172×132mm

12.7mm high, 7-digit vacuum fluorescent display with status LED

6 function keypad consisting of a flat membrane switch covered with a domed polyester overlay

Stainless steel front panel

IP65 (NEMA 4x)

Serial, RS232, discrete, analog, PLC

Universal: 100, 120, 220 or 240V AC

Simple weight indicating;
Manual over/under checkweighing

Process weighing; Direct PLC connectivity (Allen-Bradley® RIO; DeviceNet, Profibus®)

Analog output (0–10V or 4–20mA); Three high level outputs for switching between 28–230V AC (panel mount only); Printers

Single platform with up to 4 analog load cells

PTHK
Checkweighing Terminal

From its time and date feature to its ability to accommodate up to ten targets, the PTHK PLUS scale terminal gives you the power and performance required to satisfy all your weighing requirements.
The PTHK PLUS terminal includes a numeric keypad, a time and date feature, and the ability to accommodate up to ten targets, making it even more flexible.

10 000d (3000e OIML, 10 000d NTEP)

159×178×74mm

7-character, 12.7mm vacuum fluorescent numeric display with LED status lights

6 function keypad with numeric keypad

Stainless steel enclosure

IP65 (NEMA 4x)

Serial, RS232, discrete, analog, PLC

Universal: 100, 120, 220 or 240V AC

Simple weight indicating;
Manual over/under checkweighing

Analog output (0–10V or 4–20mA); Three high level outputs for switching between, 28–230V AC (panel mount only); Printers

Single platform, up to 4 analog load cells

PTHN
Process Weighing Terminal

Small in size and high in performance, the PTHN scale terminal offers outstanding value. It is compact and easy to use, yet rugged and versatile.

10 000d (3000e OIML, 10 000d NTEP)

159×178×74mm

12.7mm 7-digit Vacuum fluorescent display with status LEDs

Six function keypad consisting of flat membrane switch covered with a domed polyester overlay

Stainless steel enclosure

Sealed to IP65 (NEMA 4x) specifications

Serial, RS232, discrete, analog, PLC

Universal: 100, 120, 220 or 240V AC

Simple weight indicating;
Manual over/under checkweighing

Process weighing; Direct PLC connectivity (Allen-Bradley® RIO; DeviceNet, Profibus®)

Analog output (0–10V or 4–20mA); Three high level outputs for switching between 28–230V AC (panel mount only); Printers

Single platform with up to 4 analog load cells

Small in Size
and large in Performance

Specially designed for rugged industrial day-to-day tasks the range of METTLER TOLEDO weighing terminals has for years proven their worth at a wide variety of locations. Whether exposed to heat or cold, dust or wet, in clean rooms or hazardous areas.

IND226x
Weighing Terminal

The IND226x complete the IND22x family. Many hazardous and metrological approvals make the indicator fit for global use. The easy and reasoned operation as well as the clear readability facilitates the user's work. All analog explosion-proof weighing platforms can be connected to the IND226x.

Resolution (approvable)	3000e SR (OIML), 10 000d SR (NTEP); Non-approved max. 30 000d
Dimensions (W×D×H)	220×148×132mm
Display	7-segment LED display; 6 digits; character height 30mm
Keypad	Hardcoated polyester, foil keypad; 6 function keys
Housing	Stainless steel
Protection	IP66
Interfaces	Two optional intrinsically serial data interfaces (Interface IND, Interface Remote)
Power	PSUx 100, 120, 230V AC, (50/60Hz); APS500/501 120, 240V AC (50/60Hz) for mobile weighing external battery pack runtime up to 70 hours
Applications	Simple weighing in hazardous area; check-weighing; ×10; unit switching (lb or kg); active input can be configured as clear, print, tare or zero
Special features and functions	Hazardous area (Ex) weighing; MinWeigh®; CalFREE™; Remote display via Remote interface within the classified area
Accessories	Communication module type ACM200 for the communication into the safe area via interface IND; columns; bracket; rechargeable battery; printers
Number of attachable platforms	1 analog platform; up to 4 analog load cells (total impedance ≥ 87Ω)
Hazardous Area approval	ATEX: II 2 G Ex ib II C T4 II 2 D Ex tD A21 IP66 T60°C
	FM: IS Class I, II, III, Div 1, Groups A–G/T4, Ta=40°C

IND221/226
General Purpose Weighing Terminal

The large display for the indicator family IND22x is unique in its class. It offers applications like checkweighing, counting, ×10, or unit switching. An RS232 interface is standard as well as internal room for 4 C-cell batteries or an optional rechargeable battery. All this is packed in a stylish and functional designed plastic housing or also available with a stainless steel enclosure.

30 000d, OIML 6000e, NTEP 10 000d

IND221: 220×130×137mm
IND226: 220×180×132mm

7-segment LED, 30mm

6 function keys

IND221: Plastic; IND226: Stainless steel

IND221: IP54 (in use), IND226: IP65

RS232

90–240V DC universal
Optional: Internal rechargeable battery

Counting; Checkweighing; ×10 or unit switching (lb or kg)

–

Columns; Bracket; Rechargeable battery kit; Printers

Single platform, up to four analog load cells

–

–

IND130
Process Weighing Transmitter

The IND130 is designed where direct PLC/PC connectivity is required without a local display. The IND130 is available in a DIN rail mount or harsh enclosure/junction box version.

10 000d

Panel Type: 103×50×125mm
Harsh Type: 85×128×243mm

–

–

Harsh Version: Stainless steel

IP20 (Panel Version), IP65 (Harsh Version)

RS232, PROFIBUS, Allen-Bradley RIO

Optional 24V DC, 17 watts,
UL Class 2 or LPS power supply

Digital connectivity between your weighing sensor and your PLC/PC

–

Power Supply 85–264V AC;
ProfibusType File;
Profibus DP Connector

Single scale, up to 4 analog load cells

–

–

IND110
Weight Transmitter

The IND110 load cell signal conditioner provides an economical way to connect an analog strain gauge scale or weigh modules to process control equipment. The IND110 generates a 4–20mA process signal that is typically communicated to a remote analog input on a PLC or other process control equipment.

–

74×100×57mm

–

–

Plastic

IP20

4–20 mA analog signal

20 to 28V DC, 300 mA max, 8 watts,
Class 2 2 power supply

Simple weighing; Filling; Formulation

–

For direct interface to PLC's and other control equipment; Machinery; Integration & Engineering

Single platform, 1–4 analog load cells

–

–

Compact, tough and portable

METTLER TOLEDO knows your needs. This is because we have been manufacturing scales for your industry for many years. The focus is always on the customer and their processes and applications. With this in mind we developed a family of compact scales for all your specific requirements in your market segment. That's why this family is available with different weighing technologies, applications and environmental protections. Just compare the specifications and you will also find that we offer certificates for hygienic design, have innovative technology available such as colorWeight® display or MonoBloc® weighing technology and hold up to the highest standards in our industry.

BBA422/BBA425
Basic Level

IP65

The compact scales BBA422 and 425 represent a broad product line offering exactly the right scale for weighing, dispensing or formulation duties in industry and commerce.

3–60kg

Display	Backlit, 7-digits, 7-segment LC-Display, Character height 16mm
Keypad	6 keys: ON/OFF; Reset; Tare; Transfer; Change unit; Clear tare
Housing	Aluminum diecast
Platform	Stainless Steel
Protection	BBA422: IP43; BBA425: IP65 (EN60529)
Interfaces	RS232 (standard), optional 2nd interface: RS232, Ethernet, USB, RS485, Digital I/O
Applications	Simple weighing, Dynamic weighing
Special features and functions	Unit switching, MinWeigh®
Accessories	Protective cover PVC; Printer; Auxiliary displays; Relay box 4; RS232 connection cable; SICS Manual 4 Series; Internal battery; External power supply 12–20V DC

Select the right one:

Resolution e: 2× 3000e	Capacity				
	3kg	6kg	15kg	35kg	60kg
Platform Size (mm)					
200×240	0.5/1g	1/2g			
240×350			2/5g	5/10g	10/20g
Optional	up to 30000d and 7,500e				

BBA432
Count Level

Simple to operate with accurate counting results. Select from a broad offering the best model for your stockroom, incoming goods or shipping department.

Backlit, 7-digits, 7-segment LC-Display, Character height 21mm

10 keys: ON/OFF; Reset; Tare; Transfer; Toggle gross/net; High resolution; Toggle scale 1 and scale 2; Toggle count and weigh mode; Ten's reference, Variable reference

Aluminum diecast

Stainless Steel

IP43 (EN60529)

RS232 (standard), optional: Ethernet, USB, RS485, Analog 2nd scale, Digital I/O

Weighing; Dynamic weighing; Simple counting

Unit switching, MinWeigh®, Simple 2nd scale capability

Protective cover PVC; Printer Sprinter; Auxiliary displays; Relay box 4; RS232 connection cable; SICS Manual 4 Series; Internal battery; External power supply 12–20V DC; 2nd scale capability

BBA442
Count+ Level

Simple and easy to use. Counting, totalizing and checking – the count+ level has it all in one device. The numeric keypad supports the simple direct input and storage of tare values, item weights, IDs and target values.

Backlit, 7-digits, 7-segment LC-Display, Character height 21mm

25 keys: ON/OFF; Reset; Tare; Transfer; Info; Toggle scale 1 and scale 2; Toggle count and weigh mode; Display item weight; Ten's reference; Variable reference; Memory; ID; +/–; Delete; Numeric keypad

Aluminum diecast

Stainless Steel

IP43 (EN60529)

RS232 (standard), optional: Ethernet, USB, RS485, Analog 2nd scale, Digital I/O

Weighing; Dynamic weighing; Advanced counting; Accumulating; Checkweighing

Numerical definition of tare weights; 100 memory locations for tare weights; Target weights/quantities, Date, Time, Identification, Unit switching, MinWeigh®

Protective cover PVC; Printer Sprinter; Auxiliary displays; Relay box 4; RS232 connection cable; SICS Manual 4 Series; Internal battery; External power supply 12–20V DC; 2nd scale capability

BBA462/BBA462SQC/BBA462rem
Smart+ Level

The smart level for total flexibility. However diverse and complex your everyday tasks might be – you will always have the ideal scale.

Active-dot-matrix LCD (235×64 pixels)

25 keys: ON/OFF; Reset; Tare; Transfer; 6 freely-definable function keys (soft keys); Call database; Toggle: Upper/lower case; Delete; Alphanumeric keypad

Aluminum diecast

Stainless Steel

IP43 (EN60529)

3 RS232 + 1 PS/2 (standard), optional: 2 RS232 + RS485/Ethernet/USB/digital IO + PS/2; 1 RS232 + RS485/Ethernet/USB/digital IO + Analog 2nd scale + PS/2

Weighing; Dynamic weighing; Advanced counting; Accumulating; Checkweighing; Filling to target weights/quantities

Freely configurable operating sequences, Freely definable units, Label printing, Database for 1500 articles, Alphanumeric data input, Date, Time, Identification, Softkeys

Printers, label printer, Auxiliary displays; relay box 4, connection cables, colums 330/660mm, wall adapter, protective cover, SICS manual 4 Series (English), relay box, mini keyboard PS/2 (US layout), PS/2 barcode reader, SmartManager software, Internal battery, External power supply 17–24V DC, 2nd scale capability

The fastest Way to precise Results

The 4 Series compact scales also offer the unique high precision MonoBloc® technology – maximizing your productivity and accuracy of results. Available in four different application levels, three platform sizes and four weighing ranges from 0.6–35kg, they always stand for maximum precision for more complex requirements.

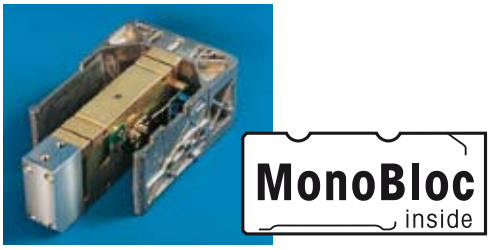
3–35kg

BBK422
Basic Level

Display	Backlit, 7-digits, 7-segment LC-Display, Character height 16mm
Keypad	6 keys: ON/OFF, Reset, Tare, Clear tare, Transfer, Change unit
Housing	Aluminum diecast
Platform	Stainless steel
Protection	IP43 (EN60529)
Interfaces	RS232 (standard), 2nd interface optional: RS232, Ethernet, USB, RS485, Digital I/O
Applications	Weighing; Dynamic weighing
Special features and functions	Unit switching, MinWeigh®
Accessories	Protective cover PVC; Second display; Printer Sprinter; Relay Box 4; Draft shield for XS-Platform; Connection cable RS232; SICS Manual 4 Series. Internal battery; External power supply 12–20V DC

Select the right one:

Resolution e: up to 61 000e (610 000d)	Capacity				
	0.61kg	3.1kg	6.1kg	15.1kg	35.1kg
Platform Size (mm)					
Ø 100	0.01g				
165×165		0.1g	0.1g		
200×240			0.2g		
240×350				0.5g	1g



BBK432
Count Level

Backlit, 7-digits, 7-segment LC-Display, Character height 21mm

10 keys: ON/OFF; Reset; Tare; Transfer; Toggle gross/net; High resolution; Toggle scale 1 and scale 2; Toggle count an weigh mode; Ten's reference, Variable reference

Aluminum diecast

Stainless steel

IP43 (EN60529)

As BBK422, additional optional analog second scale interface

Weighing; Dynamic weighing; Simple Counting

Unit switching, MinWeigh®, Simple 2nd scale capability

Protective cover PVC; Auxiliary displays; Printer Sprinter; Relay Box 4; Draft shield for XS-Platform; Connection cable RS232; SICS Manual 4 Series. Internal battery; External power supply 12–20V DC; 2nd scale capability

BBK442
Count+ Level

Backlit, 7-digits, 7-segment LC-Display, Character height 21mm

25 keys: ON/OFF; Reset; Tare; Transfer; Info; Toggle scale 1 and scale 2; Toggle count and weigh mode; Display item weight; Ten's reference; Variable reference; Memory; ID; +/–; Delete; Numeric keypad

Aluminum diecast

Stainless steel

IP43 (EN60529)

As BBK422, additional optional analog second scale interface

Weighing; Dynamic weighing; Advanced Counting; Accumulating; Checkweighing

Numerical definition of tare weights; 100 memory locations for tare weights; Target weights/quantities, Date, Time, Identification, Unit switching, MinWeigh®

Protective cover PVC; Second display; Printer Sprinter; Relay Box 4; Draft shield for XS-Platform; Connection cable RS232; SICS Manual 4 Series.Internal battery; External power supply 12–20V DC; 2nd scale capability

BBK462/BBK462SQC/BBK462rem
Smart+ Level

Active-dot-matrix LC-Display (235×64 pixels)

25 keys: ON/OFF; Reset; Tare; Transfer; 6 freely-definable function keys (soft keys); Call database; Toggle: Upper/lower case; Delete; Info; Alphanumeric keypad

Aluminum diecast

Stainless steel

IP43 (EN60529)

Standard: 3 RS232, 1 PS/2; Optional: 2 RS232 + RS485; Ethernet/USB/analog/ digital I/O + PS/2, 1 RS232 + RS485; Ethernet/USB/ digital I/O + analog 2nd scale + PS/2

Weighing; Dynamic weighing; Advanced Counting; Accumulating; Checkweighing; Filling to target weights/quantities

Freely configurable operating sequences, Freely definable units, Label printing, Database for 1500 articles, Alphanumeric data input, Date, Time, Identification, Softkeys

Protective cover PVC; Auxiliary displays; Printer Sprinter; Label printer; Relay box; Draft shield for XS-Platform; Connection cable RS232; SICS Manual 4 Series; Mini keyboard PS/2; PS/2 barcode reader; SmartManager software; Internal battery; External power supply 17–24V DC; 2nd scale capability

Easy Integration
highest Performance

The BBA412/BBA412 and BBK412/BBK415 platforms are designed for weighing under special conditions, like for integration in manufacturing equipment or as a reference or bulk scale in counting applications.

Two different weighing technologies are available: BBK412/BBK415 with strain gauge load cell and the BBK412/BBK415 precision platforms with MonoBloc® inside. As the BBA41x and BBK41x platforms are "real" digital compact scales without a display, they can be used and operated without a terminal simply connected to a PC through MT-SICS commands. Or, they can be connected to an ADI422 display with function keys, an IND4xx or IND690 terminal or a BBA/BBK4x2 compact scale via its standard RS232 interface.

BBA412/BBA415 and BBK412/BBK415
Compact Scale

BBK412 with auxiliary display ADI412

Housing	Aluminum diecast
Platform	Stainless steel
Protection	BBA412/BBK412: IP43 (EN60529) BBA415/BBK415: IP65 (EN60529)
Interfaces	RS232 (standard), optional 2nd interface: RS232, Ethernet, USB, RS485, Digital I/O
Applications	Simple weighing, dynamic weighing, Minweigh®
Accessories	ADI422 auxiliary display with function keys, ADI412 auxiliary display, Relay box 4, RS232 connection cable, SICS Manual 4 Series, External power supply 12–20V DC

Select the right one:

BBA412–BBA415

Resolution e 2× 3000e	**Capacity**		
	15kg	35kg	60kg
Platform Size			
240×350 mm	2/5g–2/5g	5/10g–5/10g	10/20g–10/20g
Optional	Up to 30000d and 7500e		

BBK412–BBK415

Resolution e Up to 35,100e	**Capacity**		
	6.1kg	15.1kg	35.1kg
Platform Size			
240×350 mm	0.2g–1g	0.5g - /	1g–1g

Viper Ex
Compact Scale

Mono Bloc

Leading-edge technology
MonoBloc® High Speed weighing cell for best weighing performance and unmatched ruggedness.

Models	Viper Ex DR	Viper Ex MB
Resolution (approved)	Analog: 2× 3000e Multi Range	Digital: up to 35,100e Single Range
Capacity (kg)	3, 6, 15, 35, 60	1.6, 3.1, 6.1, 15.1, 35.1
Readability [Max/e] (kg/g)	1.5/0.5, 3/1, 6/2, 15/5, 35/10, 60/20	[e=10 d] (g) 0.01, 0.1 (depending on capacity)
Dimensions (W×D×H, mm)	Small: 265×335×100 Large: 360×370×115	Small: 265×335×100 Large: 360×370×115
Display	Backlit LCD, 16mm	Backlit LCD, 16mm
Keypad	4-keys, tactile feel	4-keys, tactile feel
Housing	Diecast aluminum	Diecast aluminum
Protection	IP43	IP43
Interfaces	1 RS 232 or CL 20mA serial interface with PSU/Viper-Ex	1 RS 232 or CL 20mA serial interface with PSU/Viper-Ex
Power supply	PSU/Viper-Ex or PSUx	PSU/Viper-Ex or PSUx
Applications	Simple weighing, Dynamic weighing, Dispensing	Simple weighing, Dynamic weighing, Dispensing
Special features	Unit switching, Auto tare function	Unit switching, Auto tare function
Ambient temperature range	-10°C to +40°C	-10°C to +40°C
Hazardous area approval	ATEX: II 2 G EEx ib IIC T4 FM: IS Class I, Div 1, Groups A–D/T4	ATEX: II 2 G EEx ib IIC T4 FM: IS Class I, Div 1, Groups A–D/T4

ARM100
Remote Discrete I/O Module

Add Additional Remote Discrete I/O to Your System.

The ARM100 Remote Discrete I/O Module is designed to extend the control network of METTLER TOLEDO industrial terminals. This high performance module provides four inputs and six outputs at a remote location from a compatible terminal. Digital control information is received from the terminal on an RS-485 communication link.

Dimensions	**Enclosure**	**Height**	**Width**	**Depth**
	Module Only	2.9″ (74mm)	3.9″ (100mm)	2.2″ (57mm)
	Harsh	6.3″ (159mm)	7.0″ (178mm)	2.8″ (70mm)
Mounting	N35 DIN rail mount; Optional 304 stainless steel wall mount enclosure			
Power	24V DC 140mA, Class 2 power supply (not included)			
Serial Data Input	Multi-drop RS-485 interface; Module is addressable from 1 to 15; Parameters: 57,600 baud; 8 data bits, even parity, 1 stop bit			
Discrete Inputs	4 optically isolated solid state inputs; Input voltage range from 5 to 24V DC (30V DC at 40mA maximum); 4 LEDs indicate input status; External voltage source and ground required			
Discrete Outputs	6 normally open, dry contact relays; Contact rating: 250V AC or 30V DC at 1 amp maximum; Total current not to exceed 3 amps; 6 LEDs indicate output status; External voltage source required			
Applicable Terminal	IND560, IND780, IND690			
Agency Approvals	cULus, CE			

Comfortable Checkweighing in hygienic sensitive Areas

The BBA429/439/449 compact scales are designed to meet the requirements in the food-, chemical- and pharmaceutical industries. The stainless steel housing and the IP69k protection make it the ideal solution for heavy wash-down and dusty conditions. And the new colorWeight® display delivers quick and easy recognizable results. Certificates from NSF (National Sanitation Foundation) and EHEDG (European Hygienic Engineering and Design Group) are available to testify that the hygienic design criteria have been fulfilled.

IP69k
EHEDG
NSF
GMP

BBA439check/BBA449check+
with colorWeight®

colorWeight®

Yellow – above tolerance

Green – within tolerance

Red – below tolerance

Light Grey – checkweighing not active

3–30kg

Display
Keypad
Housing
Protection
Interfaces
Applications
Special features and functions
Accessories

Select the right one:

Resolution e: 2× 3000e	Capacity			
	3kg	6kg	15kg	30kg
Platform Size (mm)				
240×300	0.5/1g	1/2g	2/5g	
300×400				5/10g
Optional	up to 30000d			

BBA429
Hygienic simple Weighing

The BBA4-family is a state of the art design for the demanding environment in the food industry. Easy to clean, robust and precise! The IP69k protection allows high pressure cleaning.

Backlit 7-digit/7-segment LC display, digit height 16mm

Foil-Keypad, 6 keys, Tactile-touch membrane keypad, Scratch-resistant labelling

Stainless steel

IP69k

RS232 (standard), optional: RS422, RS485, Ethernet, WLAN, USB (Slave), Digital I/O

Weighing; Dynamic weighing

–

Protective cover; GA46 thermal printer; Relay box 4; Internal or external battery; External power supply 12–24V DC

BBA439check
Over/under Checkweighing

A perfect combination! Hygienic design and a comfortable over/under checkweighing application with the innovative colorWeight®. The multicolor backlit display makes it extremely easy to do over/under checkweighing. Different colors indicate the different tolerance areas.

Multicolor backlit 7-digit/7-segment LC display, digit height 21mm, bargraph

Foil-Keypad, 10 keys, Tactile-touch membrane keypad, Scratch-resistant labelling

Stainless steel

IP69k

RS232 (standard), optional: RS422, RS485, Ethernet, WLAN, USB (Slave), Digital I/O

Weighing; Over/under checkweighing

–

Protective cover; GA46 thermal printer; Relay box 4; Internal or external battery; External power supply 12–24V DC

BBA449check+
Ultimate Checkweighing

The high-end solution for over/under checkweighing. The numeric keypad enables easy access to the memory and a convenient way to enter tare- or target weights. The BBA449check+ offers you not only the colorWeight® functionality but also the Take-away modus which allows a semi-automatic weigh-out and tolerance check procedure.

Multicolor backlit 7-digit/7-segment LC display, digit height 21mm, bargraph

Foil-Keypad, 25 keys, Tactile-touch membrane keypad, Scratch-resistant labelling

Stainless steel

IP69k

RS232 (standard), optional: RS422/RS485, Ethernet, WLAN, USB (Slave), Digital I/O

Weighing; Over/under checkweighing and counting; classifying

Date and Time; Counting; Identification; TakeAway function

Protective cover; GA46 thermal printer; Relay box 4; Internal or external battery; External power supply 12–24V DC

www.mt.com/compact-scales
www.mt.com/over-under-checkweighers

Simple, but efficient!

The compact food scale for fast weighing and portioning in dry and light duty wet food production and packaging applications (bakeries, restaurants, kitchens, etc).

1.5–15kg

IP65

BPA224
Compact Scale

Resolution	3000e/7500d
Capacity (kg)/ Readability (g)	1.5/0.5, 3/1, 6/2, 15/5
Dimensions (mm)	230×310×127 (W×D×H)
Display	Fast 7-segment LED display, dual display (stabilisation time <1s)
Keypad	Foil keypad, 4 keys, tactile touch
Housing	Plastic
Platform	Stainless steel, 180×230mm
Protection	IP65
Interfaces	–
Power supply	Battery, recharchable
Applications:	Weighing, portioning and packaging in and light duty wet food productions (bakeries, restaurants, kitchens, etc.)

6–300kg

IP67

BBA221
Bench Scales

Resolution	Approved: OIML Class III, 3000e;
	non-approved: 6000d
Capacity (kg)/ Readability (g)	6/2, 15/5, 35/10, 60/20, 150/50, 300/100
Platform (mm)	Stainless steel AISI304, 9 sizes from 229×229 to 610×610
Display	6-digit, 7-segment LED, 30 mm/1,2", stabilization time <1s
Keypad	6 keys
Housing	Carbon steel
Protection	IP67
Interfaces	–
Power supply	100...240V AC, 50/60 Hz, 4 C batteries or NiMH rechargeable battery (option)
Applications	Weighing, Counting, Checkweighing

The BBA221 is a scale for your daily simple applications in dry areas, such as your receiving department or warehouse. The terminal with its large display is fast and easy to operate. It can communicate with a PC through its built-in RS232 interface. The scale offers a simplecounting function, but it can also be used for over/under checkweighing or classifying.

Speed up!

Speed up your warehouse and shipping processes with the METTLER TOLEDO BTA425/BTA445 or BTA429/BTA449 mobile pallet truck scales.

BTA425/BTA445 and BTA429/BTA449
Mobile Pallet Truck Scale

IP65 **1500–2000kg**

Resolution	2× 3000e (depending on capacity)
Capacity (kg)	1500, 2000
Readability (kg)	1500: Multi Range: 0–600/0.2, 600–1500/0.5 2000: Multi Range: 0–1000/0.5, 1000–2000/1
Dimensions (mm)	**BTA4x5:** Fork (L×W×H) 1150×180×85 (+/- 2); Lifting height: 205; Width over the forks: 555 (+/- 5); Top indicator height: 910
	BTA4x9: Fork (L×W×H) 1150×170×85 (+/- 2); Lifting height: 205; Width over the forks: 550 (+/- 5); Top indicator height: 970
Display	7-segment LCD
Keypad	**BTA42x:** 6 Keys **BTA44x:** 25 Keys
Housing	**BTA4x5:** Weighing indicator: Aluminium diecast Pallet truck scale: Painted steel
	BTA4x9: Weighing indicator and Pallet truck scale: Stainless steel steel
Protection	IP65 (EN60529)
Interfaces	RS232 (standard)
Power	Exchangeable battery module 12V DC/1,2 A (Power supply)
Applications	**BTA42x:** Simple weighing; Dynamic weighing **BTA44x:** Weighing; Dynamic weighing; Counting
Special features and functions	**BTA42x:** Zeroing; Taring; Transfer
	BTA44x: Counting with fixed or variable reference quantity; Counting with reference and bulk scale; Accumulating; Numerical definition of tare weights; Average piece weights and reference quantities; 100 memory locations for tare weights; Target weights/quantities; Checkweighing and weighing-in to target weight/quantity
Accessories	Version legal for trade; Integrated printer for printing out weights; Extra exchangeable battery module; Stainless steel fork shoes; Different loading or steering wheels; Different dimensions; Footbrake

www.mt.com/floor-scales

From light to heavy…

Our wide range of weighing platforms offers a solution for every application, environment and accuracy.

The weighing range starts with 3kg and goes all the way up to 12 000kg. Carbon steel or stainless steel constructions as well as IP65 protected load cells, hermetically sealed load cells or high precision MonoBloc® load cells are available. Beside the standard weights and measure tests most of our scales also undergo lifecycle tests, shock tests, and overload tests. With this we want to ensure that our customer always gets the best in class quality product from us which fits his applications and requirements. The METTLER TOLEDO family of weighing platforms build the bases of profitability in your production area. Tailored exactly to your application, weight range, available space and working environment.

K Line
For highest accuracy

3–300kg

IP67

With its hybrid design – electromagnetic force compensation cell combined with lever system – the K Line guarantees maximum precision with up to 32 000e (verification scale interval) and sets comprehensively high standards for industrial weighing. Linearity, repeatability and corner load are excellent and, thanks to the high level of protection (IP66/67) and optional stainless models, the scales are very versatile.

Resolution e = 10d	**Capacity**						
15 000e/32 000e HR*	3kg	6kg	15kg	32kg	60kg	150kg	300kg
Platform Size (mm)							
A 280×350 [1)]	0.01g	0.02g	0.1g	0.1g			
B 400×500					1g		
CC 600×800						1g	2g**
Optional	up to 320 000d						

[1)] KA3/KA6 with reduced weighing area 200×200mm
* HR = High Resolution
** KCC300, e=d, 1× 6000e SR

Scale Material	Stainless steel (spec. sizes: powder coated)	
Load Plate Material	Standard: AISI 304, Option: AISI316	
Protection	IP66/67	
Scale Interface	IDNet	
Accessories	Bench stand, Pillar support, Scale support, Roller track, IDNet- cable accessories	
Hazardous area approval	**K Line:**	EU/ATEX: Cat 3GD (KA3s/KA6s Cat 3GD only)
	Kx-T4:	EU/ATEX: Cat 2GD, USA/FM; Canada/CSA; Japan/TIIS; Russia/GOST-R; China/NEPSI
Suitable indicators	**Safe Area:**	IND4x9, IND560, IND690, ID30, IND780;
	Cat 3GD:	IND690xx, IND4x9xx;
	Cat 2GD:	ID7sx

M Line
Where linearity counts

15–300kg

IP67

With its lever mechanism linked to a digital strain gauge load cell protected against water ingress, the M Line guarantees superlative accuracy with 3× 3000e Multi Interval. It really sets the standards for industrial weighing. The precision level mechanism ensures superb linearity, repeatability and corner load. Outstanding IP67 protection and the availability of stainless models allow use in a wide variety of environments.

Resolution e1/e2/e3	**Capacity**				
3× 3000e MI*	15kg	30kg	60kg	150kg	300kg
Platform Size (mm)					
A 280×350	1/2/5g	2/5/10g			
B 400×500			5/10/20g		
CC 600×800				10/20/50g	20/50/100g
Optional	Up to 1× 7500e, up to 150000d				

* MI = Multi Interval

Scale Material	Stainless steel (spec. sizes: powder coated)
Load Plate Material	Standard: AISI 304, Option: AISI316
Protection	IP67
Scale Interface	IDNet
Accessories	Bench stand; Pillar support; Scale stand; Roller track; IDNet cable accessories
Hazardous area approval	Cat 3GD
Suitable indicators	**Safe Area:** IND4x9, IND560, IND690, ID30, IND780; **Cat 3GD:** IND690xx, IND4x9xx

www.mt.com/bench-scales

Maximum Ruggedness

The strain-gauge technology built in the bench platforms offers a resolution up to 30 000d. The very robust weighing for rugged industrial applications are protected according to IP67, and also qualified for safe and hazardous areas.

DB/DCC
Where linearity counts

30–300kg

IP67

The products DB..s/DCC..s are available in sizes of 400×500 mm and 600×800mm. Weighing ranges span from 30 to 300kg at a verificable resolution of 1× 3000e. The hybrid construction – analog strain gauge load cell and lever system – guarantees good linearity and corner load tolerances.
The weighing platform made of stainless steel in combination with the encapsulated load cell are very suitable for permanent use in wet areas. All standard models are approved for operation in hazardous areas of zone 2/22. The DB/DCC..sx version can be used in zone 1/21.

Resolution e 3000e SR*	**Capacity**			
	30kg	60kg	150kg	300kg
Platform Size (mm)				
A 400×500	10g	20g		
CC 600×800			50g	100g
Optional	up to 30 000d			

* SR = Single Range

Scale Material	Stainless steel
Load Plate Material	Stainless steel
Protection	IP67
Scale Interface	IDNet, analog
Accessories	Bench stand; Pillar support; Scale support; Roller Track; IDNet cable accessories
Hazardous area approval	**DB/DCC:** Cat 3GD **DB/DCCx:** Cat 2GD
Suitable indicators	**Safe Area:** IND4x5, IND4x9, IND560, IND690, ID30, IND780, … **Cat 3GD:** IND690xx, IND4x9xx **Cat 2GD:** ID7sx, IND226x

IP69k
EHEDG
NSF
GMP

All-out-cleanliness in the food- and the chemical/pharmaceutical industry. Easy cleaning and handling together with a hermetically sealed stainless steel load cell (IP68/69k) set new standards in food and chemical/pharmaceutical industries.

PBA430(x)
Top hygienic Design

3–600kg

With their stainless steel construction designed for optimal cleanability, the PBA430(x) weighing platforms give contamination and corrosion no chances. They can therefore be used in hygienically sensitive areas with HACCP requirements and when working to GMP.
With a hermetically sealed stainless steel load cell (IP68/69K) for hazardous areas of Cat 2GD – resp. Cat 3GD – they set new standards in chemical/pharmaceutical industries.
The optional load plate of high-alloy stainless steel (AISI316), available for each weighing platform, fulfills the highest requirements for corrosion resistance.

Res. e1/e2	**Capacity**							
2× 3000e MR*	3kg	6kg	15kg	30kg	60kg	150kg	300kg	600kg
Platform Size (mm)								
A 240×300	0.5/1g	1/2g	2/5g					
BB 300×400				5/10g	10/20g			
B 400×500				5/10g	10/20g	20/50g		
BC 500×600					10/20g	20/50g	50/100g	
CC 600×800					10/20g	20/50g	50/100g	100/200g
QA 229×229		1/2g						
QB 305×305			2/5g	5/10g	10/20g			
QC 457×457					10/20g	20/50g		
Optional	up to 30 000d							

* MR = Multi Range

Scale Material	Base-/load frame: AISI304 – e-polished (except 600×800mm)
Load Plate Material	Standard: AISI304; Option: AISI316
Protection	Analog: IP68/69k; IDNet: IP67
Scale Interface	**PBA430:** IDNet, analog; **PBA430x:** analog
Accessories	Bench stand; Roller Track; Pillar support; Scale stand; IDNet cable accessories
Hazardous area approval	**PBA430:** Cat 3GD **PBA430x:** Cat 2GD
Suitable indicators	**Safe Area:** IND4x5, IND4x9, IND560, IND690, ID30, IND780, ... **Cat 3GD:** IND690xx, IND4x9xx **Cat 2GD:** ID7sx, IND226x

PBA330
For each Application

6–600kg

PBA330 bench scales – uncompromising quality in each application. These weighing platforms are both rugged and perfect in form. They are available as square and rectangular versions in 9 different sizes, altogether. The weighing ranges are perfectly adapted to the market requirements and include 7 different capacities at a verificable resolution of 2×3000e Multi Range according to OIML (5000d NTEP).

Res. e1/e2	**Capacity**						
2× 3000e MR*	6kg	15kg	30kg	60kg	150kg	300kg	600kg
Platform Size (mm)							
A 240×300	1/2g	2/5g					
BB 300×400			5/10g	10/20g			
B 400×500			5/10g	10/20g	20/50g		
BC 500×650				10/20g	20/50g	50/100g	
CC 600×800				10/20g	20/50g	50/100g	100/200g
QA 229×229	1/2g						
QB 305×305	1/2g						
QC 457×457		2/5g	5/10g	10/20g			
QD 610×610				10/20g	20/50g		
Optional	up to 30 000d						

* MR = Multi Range

Scale Material	Base/Load frame: partly galvanized, powder-coated
Load Plate Material	Stainless steel
Protection	IP65
Scale Interface	IDNet, analog
Accessories	Bench stand, Pillar support, Scale stand, Roller Track, IDNet cable accessories
Suitable indicators	**Safe Area:** IND4x5, IND4x9, IND560, IND690, ID30, IND780, ...

Proven Weighing Platforms
tailor-made for Automation

The WMH weighing platforms are specifically designed for the use in automated processes under industrial environmental conditions. They are taylored for fast filling operations or weight control and can be directly connected to a PLC.

WMH Line
Speed & Ruggedness

15–3000kg

IP67

Speed, ruggedness, precision and direct connectivity are the key features of this product range. The innovative sensors can be used for fast weight control as well as filling/dosing applications (update rate of 38 values/sec.).

Resolution: up to 320 000d	**Capacity**							
	3kg	6kg	15kg	30kg	60kg	150kg	300kg	600kg
Platform Size (mm)								
A 350×380	0.1g	0.1g						
B 500×400			1g					
CC 800×600				1g	2g			
CS 800×800					2g	10g		
C 1000×800					2g	10g		
D 1250×1000						10g	20g	
E 1500×1250							20g	50g
ES 1500×1500							20g	50g
Repeatability	0.05g	0.1g	0.4g	0.5g	1g	5/5/10g	20g	50g

Scale Material	Stainless steel, powder coated, hot galvanized
Load Plate Material	Stainless steel (V2, V4A), powder coated, hot galvanized
Protection	IP66/67
Interfaces	RS232 and RS422, direct connection – without terminal. Profibus DP, Profinet IO, DeviceNet and Ethernet IP with additional module (accessory)
Power	10 to 28V DC; 2.5W in operation
Accessories	Various connecting cables; Connection modules (recommended); Various bench stands; Roller tracks; Approach ramps; Pit frames; Startup set; Adjustment weights
Suitable indicators	IND690, IND780

www.mt.com/modulowmh

WMH Ex Line
For Hazardous Automation

15–3000kg

IP67

The WMH-Ex weighing platforms are specifically designed for the use in automated processes in hazardous environments (zone 1/21). Speed, ruggedness, precision and direct connectivity are the key features of this product range. The innovative sensors can be used for fast weight control as well as filling/dosing applications (update rate of 19 values/sec.).

Scale Material	Stainless steel, powder coated, hot galvanized
Load Plate Material	Stainless steel (V2, V4A), powder coated, hot galvanized
Protection	IP66/67
Interfaces	RS232 via PSU, Profibus DP, Profinet IO, DeviceNet and Ethernet IP with additional module (accessory)
Power	Via PSU/TBrick-Ex/RS 100–240V AC, max. 510mA
Accessories	Longer connecting cable WMH-Ex to PSU (5m included in delivery); Various bench stands; Roller tracks; Approach ramps; Pit frames; Adjustment weights
Hazardous area approval	ATEX: II 2GD
	FM: Class I, Division 1
Suitable indicators	Direct connection to PLC

www.mt.com/modulowmhex

Designed to fit your application, industry and environment

All our analogue weighing platforms can be combined with any METTLER TOLEDO weighing terminal to fit your application. For higher accuracy and more flexibility, our K- and M-platforms use the IDNet interface to communicate the weighing result. Minimize your installation times, increase your flexibility and make the most of the advantages of a digital IDNet scale interface. Simply connect and weigh!

K Line
For highest accuracy

300–3000kg

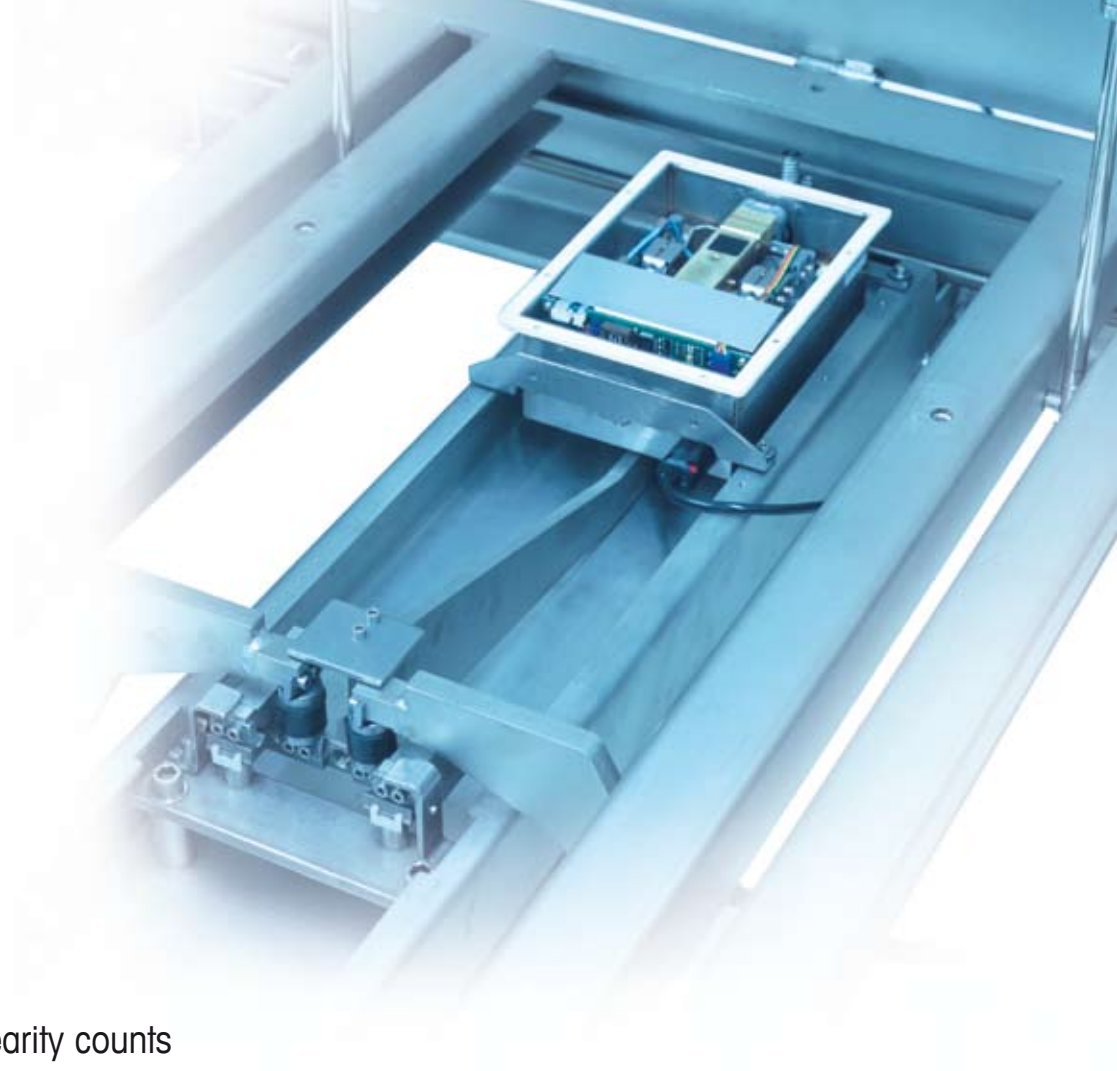
IP67

This hybrid design combining electromagnetic force compensation cell with lever system, the K Line of pit and floor scales offers maximum accuracy with up to 6000e/7500e. These scales set the highest standards for all aspects of industrial weighing. Their linearity, repeatability and corner load are all that could be desired, and impressive (IP66/67) protection plus the option of stainless steel make them very versatile.

Resolution e 6000e/7500e SR*	**Capacity** 300kg	600kg	1500kg	3000kg
Platform Size (mm)				
800×800	2g**	10g**		
800×1000	2g**	10g**		
1000×1250		10g**	20g**	
1250×1500			20g**	50g**
1500×1500			20g**	50g**
Optional	3×3000e Multi Interval, up to 300 000d			

* SR = Single Range
** Standard setting ex-works

Scale Material	Stainless steel, hot galvanized (depending on scale model)	
Load Plate Material	Stainless steel, hot galvanized (depending on scale model)	
Protection	IP66/67	
Scale Interface	IDNet	
Accessories	Load plates; Pit frames; Ramps; IDNet cable accessories	
Hazardous area approval	**K:**	EU/ATEX: Cat 3GD
	Kx-T4:	EU:ATEX: Cat 2GD, USA/FM; Canada/CSA; Japan/TIIS; Russia /GOST-R; China/NEPSI
Suitable indicators	**Safe Area:** IND4x9, IND560, IND690, ID30, IND780 **Cat 3GD:** IND690xx, IND4x9xx **Cat 2GD:** ID7sx	



M Line
Where linearity counts

300–3000kg

IP67

With its lever construction combined with a strain gauge load cell protected against water ingress, the M Line guarantees first-class precision with 3× 3000e Multi Interval. It sets all-embracing standards for industrial weighing. The precision lever mechanism also ensures superb linearity, repeatability and corner load. First-class (IP67) protection and the stainless option allow use in a wide variety of situations.

Resolution e1/e2/e3 3× 3000e MI*	**Capacity**			
	300kg	600kg	1500kg	3000kg
Platform Size (mm)				
800×800	20/50/100g	50/100/200g		
800×1000	20/50/100g	50/100/200g		
1000×1250		50/100/200g	100/200/500g	
1250×1500			100/200/500g	200/500/1000g
1500×1500			100/200/500g	200/500/1000g
Optional	Up to 150000d			

* MI = Multi Interval

Scale Material	Stainless steel, hot galvanized (depending on scale model)
Load Plate Material	Stainless steel, hot galvanized (depending on scale model)
Protection	IP67
Scale Interface	IDNet
Accessories	Load plates; Pit frames; Ramps; IDNet cable accessories
Hazardous area approval	Cat 3GD
Suitable indicators	**Safe Area:** IND4x9, IND560, IND690, ID30, IND780
	Cat 3GD: IND690xx, IND4x9xx

www.mt.com/floor-scales

Designed to save you money

With our reliable floor scales with strain gauge load cells you can control the cost of ownership for the lifetime of your scale. However heavy or bulky your products we have the right model for you. From simple pit through low-profile and palette scales to hinged platforms, we offer everything you need to streamline and simplify your operation. Special accessories such as approach ramps, lever systems, pit frames or options such as high quality stainless steel, high resolution/high quality load cells, grind surface, allow full customization for your facility.

DN..sk
Easy to clean

600–3000kg

IP68

The DN..sk floor respectively built-in scales are suitable for wet and harsh areas. With the help of the raisable load plate, the DN..sk scales (stainless steel) are very easy to clean. In combination with the special pit frame, the DN..sk floor scales are ideal pit model scales.
Do you have special requirements regarding size and weighing performance? Please get in contact with us and we will find an individual solution for your application.

Resolution e1/e2 2× 3000e MR*	**Capacity**		
	600kg	1500kg	3000kg
Platform Size (mm)			
1250×1000	100/200g	200/500g	500/1000g
1500×1250	100/200g	200/500g	500/1000g
1500×1500	100/200g	200/500g	500/1000g
Optional	3× 3000e Multi Range, 2× 3000e Multi Interval, 1× 6000e Single Range, up to 30000d		

* MR = Multi Range

Scale Material	Stainless steel, on request: AISI316	
Load Plate Material	Stainless steel, smooth or pattern On request: AISI316, grind surface (R_a <1µm)	
Protection	IP68	
Scale Interface	IDNet, analog	
Accessories	Ramps; Pit frame QuickPit, IDNet cable accessories	
Hazardous area approval	**DN..sk:**	Cat 3GD
	DN..sxk:	Cat 2GD
Suitable indicators	**Safe Area:**	IND4x5, IND4x9, IND560, IND690, ID30, IND780, …
	Cat 3GD:	IND690xx, IND4x9xx
	Cat 2GD:	ID7sx, IND226x

PFA574/PFA575/PFA579
The Workhorse

300–3000kg

This rugged platform is the reliable partner for your weighing applications. Mounted directly on adjusting feets, the platform can be easily placed on the floor or installed into prepared pit frames. Due to its unique RockerFoot design you have a full floating platform. This ensures longlasting excellent metrological characteristics. A wide range of options and accessories results in a high flexible and versatile product range, that fits your requirements! You do not find an appropriate product in our standard assortment? Do you have special requirements regarding size and weighing performance? Please get in contact with us and we will find an individual solution for your applications.

Resolution e 3000e SR*	**Capacity**			
	300kg	600kg	1500kg	3000kg
Platform Size (mm)				
1000×1000	100g	200g	500g	1000g
1250×1000	100g	200g	500g	1000g
1500×1250	100g	200g	500g	1000g
1500×1500	100g	200g	500g	1000g
2000×1500	100g	200g	500g	1000g
Free Sizes	700×400… 2000×1500			
Optional	2× 3000e Multi Range, 3× 3000e Multi Range, 2× 3000e Multi Interval, 1× 6000e, up to 30000d			

* SR = Single Range

Scale Material	**PFA574:** painted, **PFA575:** hot galvanized, **PFA579:** stainless steel (AISI304 or AISI316)
Load Plate Material	**PFA574:** painted, **PFA575:** hot galvanized, stainless steel, **PFA579:** stainless steel (AISI304 or AISI316) surfaces: smooth, pattern or grind (R_a<1µm)
Protection	**PFA574:** IP65, **PFA575:** IP68, **PFA579:** IP68
Scale Interface	IDNet, analog
Accessories	Ramps, Pit frame Quick Pit, Load plate, Footplates, Installation frame; IDNet cable accessories
Hazardous area approval	**PFA574:** Safe area; **PFA575:** Cat 3GD; **PFA575x:** Cat 2GD; **PFA579:** Cat 3GD; **PFA579x:** Cat 2GD
Suitable indicators	**Safe Area:** IND4x5, IND4x9, IND560, IND690, ID30, IND780, …
	Cat 3GD: IND690xx, IND4x9xx
	Cat 2GD: ID7sx, IND226x

IP68
EHEDG
GMP

PUA574/PUA579
Low Profile Scales

300–1500kg

Whether certified according to GMP or in conformity with EHEDG* – the PUA574/PUA579 drive-through scales meet the highest requirements. The rugged drive through scales are available in different standard- and free-size dimensions.
The low overall height of 35mm respectively 45mm allows smooth driving via a ramp – a pit installation becomes redundant. Thanks to new product options and a wide range of accessories, the PUA574/PUA579 can be very well adapted to your demands.
The new developed lifting device makes the cleaning of the platform and beneath the platform efficient. With the focus on easy and fast handling and on highest safety the PUA579 with lifting device is your best choice.

* CS & FL size EHEDG approved

Resolution e 3000e SR*	**Capacity**		
	300kg	600kg	1500kg
Platform Size (mm)			
850×850 (EHEDG)	100g	200g	500g
800×1000	100g	200g	500g
Free Sizes	750×400… 1500×1500 (length × inner width)		
Optional	2× 3000e Multi Range, 3× 3000e Multi Range, 2× 3000e Multi Interval, 1× 6000e, up to 30000d		

* SR = Single Range

Scale Material	PUA574: painted; PUA579: stainless steel 1.4301/AISI304; Option: stainless steel AISI316, grind surface (R_a <1µm)	
Protection	IP68	
Scale Interface	IDNet, analog	
Accessories	Ramps, Lifting device, Foot plate set with stop, Approach ramps, Passage stop, IDNet cable accessories	
Hazardous area approval	**PUA574:**	Safe area
	PUA579:	Cat 3GD
	PUA579x:	Cat 2GD
Suitable indicators	**Safe Area:**	IND4x5, IND4x9, IND560, IND690, ID30, IND780, …
	Cat 3GD:	IND690xx, IND4x9xx
	Cat 2GD:	ID7sx, IND226x

PTA455/PTA459
Pallet Scales

300–3000 kg

PTA455/PTA459 – the pallet scales for goods receiving and shipping, manufacturing and packaging. The rugged and reliable pallet scales are made of mild steel/ hot galvanized or stainless steel. A wide range of options and accessories helps to reach your requirements. Do you have special requirements regarding form and weighing performance of your scale? Please get in contact with us and we will find an individual solution for your application.

Resolution e 3000e SR*	**Capacity**			
	300kg	600kg	1500kg	3000kg
Platform Size (mm)				
1260×600	100g	200g	500g	1000g
Free Sizes	500×450… 1260×1000 (length × inner width)			
Optional	2× 3000e Multi Range, 3× 3000e Multi Range, 2× 3000e Multi Interval, 1× 6000e, up to 30000d			

* SR = Single Range

Scale Material	**PTA455:** Hot galvanized; **PTA459:** Stainless steel, 1.4301/AISI304. Option: Stainless steel AISI316, grind surface (R_a <1µm)	
Protection	**PTA455:** IP65; **PTA459:** IP68	
Scale Interface	IDNet, analog	
Accessories	Load plate; Leg widener; Wheel set; Handle; IDNet cable accessories	
Hazardous area approval	**PTA455:**	Safe area
	PTA459:	Cat 3GD
	PTA459x:	Cat 2GD
Suitable indicators	**Safe Area:**	IND4x5, IND4x9, IND560, IND690, ID30, IND780, …
	Cat 3GD:	IND690xx, IND4x9xx
	Cat 2GD:	ID7sx, IND226x

DRF/DSF
Heavy Capacity

3000–12000 kg

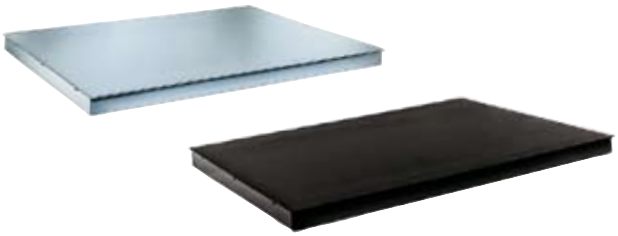
IP68

The heavy capacity weighing platforms DRF/DSF equipped with strain gauge load cells are suitable for weights up to 12000kg. By connecting up to 3 modules, weighing surfaces of at least 1×1m up to 2×6m can be realized according to the customer's desire. The heavy capacity platforms can be chosen alternatively as black painted or as stainless steel version and can be used both in dry and wet areas. You do not find an appropriate product in our standard assortment? Do you have special requirements regarding form and weighing performance of your scale? Please get in contact with us and we will find an individual solution for your applications.

Resolution e 3000e / 6000e SR*		**Capacity**		
		3000kg	6000kg	12000kg
Platform Size (mm)				
DRF 1000×1000×120–6000×2000×120	3000e	1kg	2kg	
	6000e	0.5kg	1kg	
DSF 1000×1000×150–6000×2000×150	3000e	1kg	2kg	5kg
	6000e	0.5kg	1kg	2kg
Optional	Up to 30000d			

* SR = Single Range

Scale Material	**DRF/DSF:**	Stainless steel, painted
	DRFx/DSFx:	Stainless steel
Load Plate Material	**DRF/DSF:**	Stainless steel, hot galvanized, painted
	DRFx/DSFx:	Stainless steel, hot galvanized
Protection	IP68	
Scale Interface	IDNet	
Accessories	Pit frame; IDNet-cable accessories	
Hazardous area approval	**DRF/DSF:**	Cat 3GD
	DRFx/DSFx:	Cat 2GD
Suitable indicators	**Safe Area:**	IND4x9, IND560, IND690, ID30, IND780, …
	Cat 3GD:	IND690xx, IND4x9xx
	Cat 2GD:	ID7sx



Processing Beef, Pork or Lamb

The overhead rail scales for loads from 150 to 1200kg can be integrated easily into various types of conveyor systems and serve for precise and rapid weighing of carcasses.

We supply static or in-motion versions up to 1200 carcasses per hour. Various sensor technologies – strain gauge technology analog or digital – guarantee highest ruggedness and precision of the weighing results. Combined with the wide range of operating terminals, verifiable system solutions of up to 3× 3000e Multi Interval can be realized.

MO
Overhead/Monorail Scales

600–1200kg

IP67

The hybrid design (digital strain gauge weighing cell and lever arm system) of the MO means that measuring rail inserts can be detached from the weighing system and vibrations have no effect on the weighing result. The standard rail insert support is suitable for conventional tubular systems, while the universal rail insert support and the universal adaption plate ensure easy integration in a wide range of rail systems.

Resolution	Approved: 3× 3000e Multi Interval
Capacity (kg)	600, 1200
Readability (g)	Approved: 50–100 (depending on the scale model)
Dimensions (mm)	Weighing rail insert length: 800, 1000
Scale Material	Hot galvanized (Powder-coated lever arms)
Protection	IP67
Interfaces	Scale interface: IDNet
Accessories	Adaption plate; Standard weighing rail insert support; Universal rail insert support; Weighing rail inserts; Tubular track adapters; Elbows small/large; IDNet cable accessories
Suitable indicators	IND4x9, IND690, IND560, ID30, IND780, ...

DO/DSO
Overhead/Monorail Scales

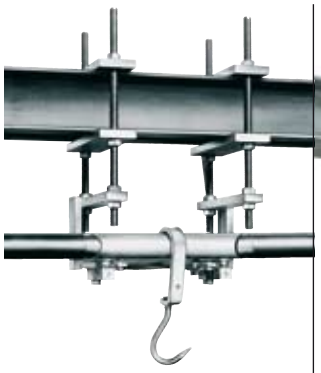
150–300kg

IP65

The DO300 overhead rail scale is equipped with two strain gauge weighing cells and is designed for weighing up to 300 kg. The rugged and torsionally rigid unit is fixed below the mounting support and thus ensures compact installation in very small spaces.

DSO scales can be easily integrated regardless of the type of rail system used, as both versions offer an universal adaption plate which can be installed above and around the rail.

Model	DO
Resolution	Approved: 1× 3000e Single Range Non-approved: up to 15 000d (depending on the application/vibrations)
Capacity (kg)	300
Readability (g)	Approved: 100
Dimensions (mm)	Weighing rail insert length: 600, 800, 1000
Scale Material	Hot galvanized
Protection	IP65
Interfaces	Scale interface: IDNet, analog
Accessories	IDNet cable accessories
Suitable indicators	IND4x5, IND4x9, IND560, IND690, ID30, ...



DO

DSO

Model	DSO
Resolution	Approved: 1× 3000e Single Range Non-approved: up to 15 000d (depending on the application/vibrations)
Capacity (kg)	150, 300
Readability (g)	Approved: 50, 100 (depending on the capacity)
Dimensions (mm)	Weighing rail insert length: 200, 300, 400; Flexible adaptation plate
Scale Material	Hot galvanized
Protection	IP65
Interfaces	Scale interface: analog
Suitable indicators	IND4x5, IND4x9, IND560, IND690, IND780, ...

DW
Wall Scale

150kg

IP67

The space-saving, compact wall scale is the ideal solution for weighing part loads or half-carcasses. The hinged plate, casing and gallows hook are made from stainless steel to ensure compliance with stringent hygiene regulations.
Depending on the requirements of the installation wall, mounting kits are available. A bench stand is also available and an optional meat hook can be secured vertically in two different positions.

Resolution	Approved: 1× 3000e Single Range
Capacity (kg)	150
Readability (g)	Approved: 50
Dimensions (mm)	Plate size: 600×400
Scale Material	Finish on visible surfaces: Stainless steel (1.4301/AISI 304) / Finish hinged plate support/internal frame: Hot galvanized
Protection	IP67
Interfaces	Scale interface: IDNet, analog
Accessories	Dowel installation kit; Screw-through mounting kit; Gallows with meat hook; Bench stand; IDNet cable accessories
Suitable indicators	IND4x5, IND4x9, IND560, IND690, IND780, ...

www.mt.com/overhead-monorail
www.mt.com/wall-scale

The correct Shade
right from the Beginning

Satisfied customers mean faithful customers. Your customers are statisfied if you carry out a good job. Apart from your professional knowledge and skill you need reliable, precise and good quality tools like the userfriendly paint scale Panda 7.

Panda 7
Paint Scales

7.1kg

Rugged and dependable scale for mixing automotive refinishing paints.

Resolution	7100e, 71 000d
Capacity (kg)	0–7.1
Readability (g)	0.1, 0.05 (0-999g)
Dimensions (mm)	330×342, Platform Ø: 232, Stand height: 350
Display	Backlit LCD, character height: 12mm
Keypad	8 function keys
Housing	Cast aluminum
Platform	Stainless steel
Protection	IP54
Interfaces	RS232, connectable to various color mixing systems, Optional: USB converter
Power	120/230V AC power supplies available for safe or hazardous area applications
Applications	**Panda 7:** General and formula weighing **Panda 7/X, Panda7/X2:** General and formula weighing in hazardous areas
Accessories	Protective cover
Ambient temperature range	0°C to +40°C
Hazardous area approval	**Panda 7/X:** II 2 G EEx ib IIB T4,
	FM: AIS Class I, Div I, Groups C, D
	Panda 7/X2: II 3 G EEx nAL IIC T4
	Panda 7/X2 IECEx: Ex nL IIC T4

Soar to new Heights
with innovative Solutions

- **Easy to use software**
- **Vacuum fluorescent display for multiangle readability**
- **Graphic and alphanumeric messages**
- **Multi-language capabilities**
- **Fuss-free integration with baggage handling systems**

IND205
Airport Bagagge Scales

150–5000kg

Compact design, easy to use, superior display, and packed with functionality.

Resolution	3000e
Capacity (kg)	150, 300, 600, 1000, 2000, 5000
Readability (g)	100
Dimensions (W×D×H, mm)	Operator Terminal: 185×84×136 Passenger Display: 122×28×86
Display (Operator Terminal)	128×64 dot-matrix high brightness vacuum fluorescent
Keypad	5 function keys
Housing	Stainless steel front frame, metal housing
Platform	Customised
Interfaces	1× RS-232/RS-485 Operator Terminal: 6-wire load cells, 4× 350Ω analog load cells Passenger Display/Operator Panel: RS232 via RJ45 interface
Power	100–240V AC 50/60Hz 0.2–0.5A
Applications	Baggage weighing

No Limits for precise Weighing

Weigh modules enable the quick and safe conversion of a tank or conveyor system into a scale. Their high precision ensures fill levels can be determined accurately, while dispensing and formulation control are also an option. Built-in side load and lift up protection ensure that safety, performance and precision are maintained.

WM Precision Weigh Modules

Whether your needs are for precision weighing, precise filling, specific characterisation of materials or quality control – precision weighing modules with a direct data connection are the right choice.

Models	**WM124, WM123, WM503, WM3002, WM6002**
Max. Capacity/ Readability (g)	**WM124:** 121/0.0001 **WM123:** 121/0.001 **WM503:** 510/0.001 **WM3002:** 3100/0.01 **WM6002:** 6100/0.01
Material	Stainless steel
Protection	Version L22: IP54 Versions W22: IP54/IP66
Interfaces	RS232 and RS422, direct connection – without terminal. Profibus DP, Profinet IO, DeviceNet and Ethernet IP with additional module (accessory)
Power	10–28V DC
Applications	Extremely fast, robust and compact precision weighing modules. Developed for integration into automated processes.
Other Functions	Digital I/O; Trigger-Mode; Below-the-balance weighing; Built-in adjustment weight; Built-in overload protection; Configuration and visualization software
Accessories	Connecting cables; Connection module; Profibus and DeviceNet module; Startup set
ATEX approval	Also available for hazardous zones (ATEX Zone 2: II 3 G EEx nA, IIC T4. Separate product line: ATEX95: II 2 G EEx ib IIC T4; FM approval for: Class I, Div. 1, Groups A, B, C, D; CSA: Intrinsically safe Exi, Class 1, GP A, B, C, D, Ex ib IIC T4
Suitable Indicators	IND780, IND690

For more details please see "Weighing Components from the Market Leader", Catalog Edition 2008/09.

www.mt.com/load-cells
www.mt.com/weigh-modules
www.mt.com/modulowm

Weigh Modules
Compression Weigh Modules

Compression weigh modules enable the quick and safe conversion of a tank or conveyor systems into a scale. Their high precision ensures that fill levels can be determined accurately, while dispensing and formulation control are also an option. Built-in side load and lift up protection ensure that safety, performance and precision are maintained. Available in various versions depending on the application and environment, METTLER TOLEDO weigh modules are ideally tailored to meet your requirements.

Models	**0972 Ultramount, 0958 Flexmount/ Centerlign, 0970 Ringmount, SWC515 Pinmount, 3390 Gagemount**
Max. Capacity (kg)	**Ultramount:** 5, 10, 20, 50, 100, 200, 300, 500
	Flexmount: 110, 220, 550, 1100, 2200, 4400
	Centerlign: 110, 220, 550, 1100, 2200, 4400
	Ringmount: 250, 500, 1000, 2000, 3500, 5000, 10000
	Pinmount: 7500, 15'000, 22'500
	Gagemount: 20000, 30000, 50000, 100000, 200000, 300000
Resolution	3000e, 6000e, 5000d, 10000d (depending on model)
OIML approval	Standard: C3 OIML R60
	Option: C6 OIML R60 (0970 Ringmount only)
NTEP approval	NTEP IIIM 5000d, 6000d, IIIL 10000d (depending on model)
ATEX approval	Zone 1/2 and Zone 21/22
FM/cFM approval	Class I, II, III Div 1&2 Gagemount: Class I, II, III Div 1
Material	**Ultramount:** Stainless steel
	Flexmount/Centerlign: Painted steel or stainless steel
	Ringmount: Stainless steel 316 (1.4401), electropolish
	Pinmount: Galvanized or stainless steel
	Gagemount: Galvanized or stainless steel
Protection	IP68, load cells stainless steel, laser welded (110kg potted)
Interfaces	Analog 2m V/V
Applications	**Ultramount:** Low capacity tank weighing
	Flexmount: Static tank weighing with lift-off protection
	Centerlign: Dynamic loading like conveyors
	Ringmount: Hygienic applications in pharma and food sector
	Pinmount: Static tank weighing, Mixers and conveyors with optional stabilizers
	Gagemount: High capacity tank weighing
Accessories	J-Boxes; Vibration and thermal isolation pads; Dummy load cells; Dead stands; Conduit adapters.

Tension Mounts
Tension Weigh Modules

Tension weigh modules are designed for installation where suspended mounting is required. The ruggedly designed system tolerates the many adverse loading and environmental conditions commonly present in the industrial weighing application while still providing excellent accuracy.

Model	**SWS310 Tension Mount**
Max. Capacity (kg)	50, 100, 250, 500, 1000, 2500, 5000, 7500
Resolution	3000e*
OIML approval	C3 OIML R60* (with load cell SLS510)
NTEP approval	II 3000d, IIIL 10000d
ATEX approval	Zone 1/2 and Zone 21/22* (with load cell SLS510)
FM/cFM approval	Class I, II, III Div. 1&2*
Material	SWS310/SLS410: nickel plated steel
	SWS310/SLS510: stainless steel
Protection	IP67 (load cell)
Interfaces	Analog 2m V/V
Applications	Suspended hoppers; Mechanical lever scale conversions
Accessories	J-Boxes

* as from Q2/09 on

A high Level of Accuracy

METTLER TOLEDO offers a wide range of stainless steel single point load cells. They are typically used individually in small to medium-sized scales, where higher degrees of protection are required.
The moment insensitive design guarantees a high level of accuracy even with eccentric load, providing an easy way of creating high-precision scales. The key features of the cells are ruggedness and a high level of reliability.

Aluminum

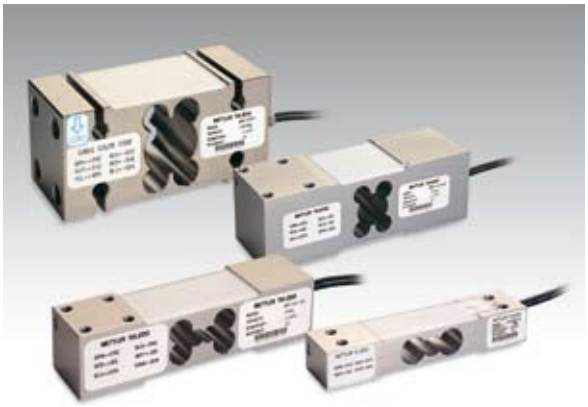
Single Point Load Cells

Models	**MT1022, MT1041, MT1241, MT1260**
Max. Capacity (kg)	**MT1022:** 3,5,7,10,15,20,30
	MT1041: 10, 15, 20, 30, 50, 75, 100
	MT1241: 30, 50, 100, 150, 200, 250
	MT1260: 50, 75, 100, 150, 200, 250, 300, 500, 750
Resolution	3000e (MT1241: 3500e)
OIML approval	C3 OIML R60
Platform size (mm)	MT1022: 350×350; MT1041: 400×400;
	MT1241: 400×400; MT1260: 600×600
Material	Aluminum, passivated
Protection	IP67, potted
Interfaces	Analog 2m V/V
Applications	Bench scales; Floor scales; Process weighing

For more details please see "Weighing Components from the Market Leader", Catalog Edition 2008/2009.

Steel

Single Point Load Cells



Models	**SSP1022, SSP1241, SSP1260, SSH, IL**
Max. Capacity (kg)	**SSP1022:** 6, 10, 30
	SSP1241: 30, 50, 100, 200, 300
	SSP1260: 150, 300, 500
	SSH: 50, 100, 200, 500, 1000
	IL: 150, 250, 500, 1000, 2000
Resolution	3000e
OIML approval	C3 OIML R60
Platform size (mm)	SSP1022: 250×250; SSP1241: 500×500; SSP1260: 800×600; SSH: up to 1200×800; IL: up to 1000×1000
Material	SSP/SSH: Stainless steel; IL: Nickel plated steel
Protection	SSP: IP67, potted; SSH: IP68, laser welded; IL: IP67
Interfaces	Analog 2m V/V
Applications	Bench scales; Floor scales; Process weighing in food and pharma

From 5kg–4.4 Tonnes

Beam Load Cells

METTLER TOLEDO beam load cells are available from 5kg–4.4t. This type of construction provides an ideal combination of compact design and high weighing precision. To withstand the harsh industrial environment, the models are available in a stainless steel and fully welded version.
This guarantees a high level of reliability and operational safety. All listed beam load cells have the major approvals OIML, NTEP and Ex certification ATEX, FM as standard, considerably simplifying your logistics.

Models	**MTB, 0745/0745A ,0743**
Max. Capacity (kg)	**MTB:** 5, 10, 20, 50, 100, 200, 300
	0744A/0745A: 110, 220, 550, 1100, 2200, 4400
Resolution	3000e
OIML approval	C3 OIML R60 (not 5kg)
NTEP approval	NTEP III 5000d
ATEX approval	Zone 1/2 and Zone 21/22
FM/cFM approval	Class I, II, III, Div. 1&2
Material	Stainless steel
Protection	IP68, laser welded
Interfaces	Analog 2m V/V
Applications	**MTB:** Low capacity tank weighing, process control
	0744A/0745A: Floor scales, tank weighing, process control
	0743A: Tank weighing, process control
Accessories	J-Boxes, Load introduction parts

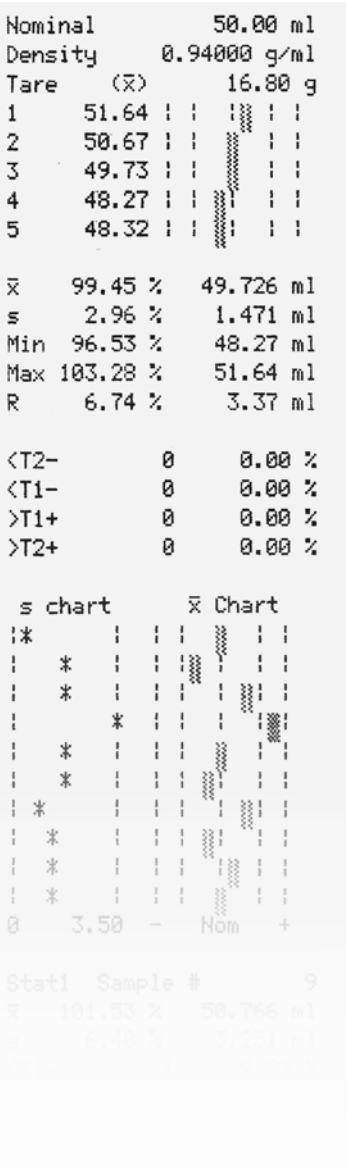
For heavy Loads

Canister/Ring Load Cells

Whether you are operating a truck, rail, or tank scale, inaccurate weights can cost you money. By ensuring that every weight is accurate, METTLER TOLEDO canister load cells help prevent lost income due to incorrect billing, customer complaints, and fines for overloading. Each load cell is compensated for external influences such as temperature changes, nonlinearity, hysteresis, and creep.

Models	**RLC, SLC610, 0782, POWERCELL® MTX®, POWERCELL**
Max. Capacity (t)	**RLC:** 0.25, 0.5, 1, 2.2, 10
	SLC610: 7.5, 15, 22.5
	0782: 20, 30, 50, 100, 200, 300
	POWERCELL® MTX®: 25, 45
	POWERCELL®: 90
Resolution	3000e–6000e, 10000d (depending on model)
OIML approval	C3 OIML R60
	Option C4,C5,C6 OIML R60 (depending on model)
NTEP approval	NTEP IIIL 10000d
ATEX approval	Zone 1/2 and Zone 21/22
FM/cFM approval	Class I, II, III, Div. 1
	RLC: Class I, II, III, Div 1&2
Material	Stainless steel
Protection	IP68, laser welded; POWERCELL® MTX® and POWERCELL®: IP68/IP69K, glass to metal
Interfaces	Analogue 2m V/V; POWERCELL® MTX®, POWERCELL®: High speed
Applications	**RLC:** Low profile weighing; High precision weighing
	SLC610: Tank weighing
	0782: Vehicle weighing; Tank weighing
	POWERCELL® MTX®: High performance vehicle weighing
Accessories	Load receivers, J-Boxes

Black on White…
For clearly documented Results



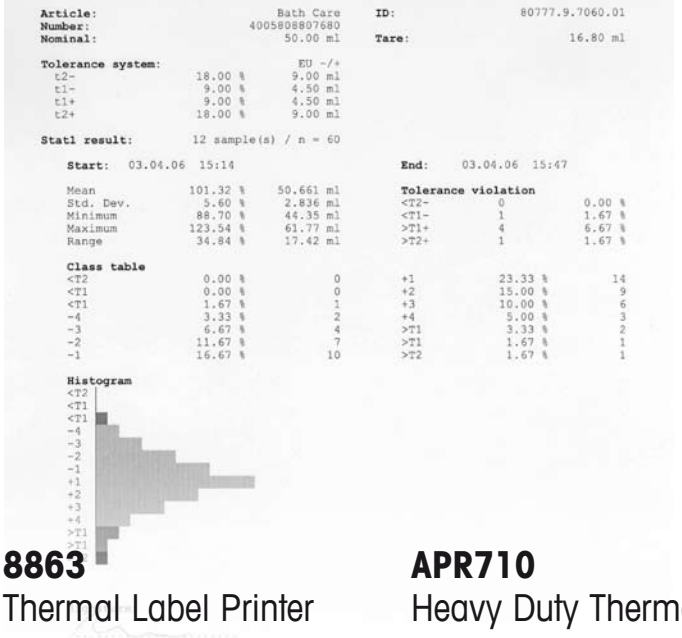
APR310
Ticket Printer

Designed for reliability, the APR310 Ticket Printer is perfect for industrial applications. The open design of the print mechanism enables easy paper feeding. A remote print button supports METTLER TOLEDO weighing products. The compact design is space efficient and integrates well into work areas.

8808 Heavy Duty
Multi-Part Form Printer

A powerful printer for multi-part forms and the best choice for vehicle or industrial applications. Using a high-speed bi-directional printhead, the 8808 printer has the power to print through thick tickets and forms. Features like 40/66 column print width, inverted printing, and emphasized print mode make it a very versatile printer.

	APR310	8808
Type	Serial impact dot-matrix 9 pin	Heavy duty dot matrix impact ticket/slip printer
Print Speed	3.1 lines/sec	Approx. 2 lines per second
Copies	Original + 2 copies	Up to 1 original + 4 copies
Printhead	9-pin dot matrix	9 pin bi-directional impact
Max. Print Width	35/66 column, line spacing 0.30–0.35mm	Line length: 84.5mm/40 columns or 133mm/66 columns; Line spacing: 6 lines per inch
Media	Paper, 70 to 210×70–297mm (W×L)	Paper: min. 80×69mm, max. 182×257mm
Memory	4K	max. 4K
Fonts/Character Size	International character fonts, size varies by font	9×9 dot matrix default (expanded fonts through control codes)/1.6×3.1mm
Barcodes	–	–
Dimensions (w×d×h)	180×190×138mm	185×252×266mm
Power	90–264V AC, 50/60HZ; 24V DC 2.0A	100–240V AC/50–60Hz
Approvals	Varies by font	UL, CUL, CE, TUV, FCC Class A
Interfaces	RS232 25-pin serial	RS232 serial, DB25 female connector
Accessories	–	–



8857
Impact Strip Printer

The 8857 Strip Printer is ideal for producing a printed record of weighing transactions. The impact printing will not fade over time like thermal printing. So whatever the application, important results are safe for later reference. Dropin auto-paper loading and few moving parts make this a durable and easy-to-use printer.

Serial impact dot-matrix
4.7 lines/sec (40 columns), 8.6 (16 columns)
Original + 1 copie
9-pin serial
Line length: 40 columns Line spacing: 0.30–0.35mm
Paper: 76mm
max. 4K
International character fonts, size varies by font
–
160×248×138mm
100–240V AC, 50-60HZ; 24V DC 1.3A
Varies by font
RS232 25-pin serial
–

8863
Thermal Label Printer

The 8863 printer provides superior thermal label printing in a compact size. The 203 or 300dpi resolution means consistently high quality text, graphics and bar code labels for production, manufacturing and research. A label-taken sensor is standard for selfpeeling individual labels.

Direct thermal or thermal transfer
Up to 100 mm/second
–
203 dots/in, 8 dots/mm or 300 dots/in, 12 dots/mm
Max. print width 104mm
Roll or fan-fold, die-cut or continuous labels. 0.06 to 0.25mm thickness, 25.4 to 109mm width
2MB DRAM, 1MB Flash
9 fonts from 2 to 6 mm, expandable horizontally and vertically up to 24×
Code 39, Interleaved 2 of 5, Code 128 (A,B,C), LOGMARS, UPC-A, UPC-E, UPC-2 & 5 digit addendum's, UPC random weight, Code 93, Plessey, Codabar, USCS, UCC/EAN Code 128, Postnet, Code 128, MOD 43, PDF417, EAN-8, EAN-13
179×223×254mm
100–240V AC/50–60Hz
UL, CSA, CE, FCC
RS232 serial, DB9 female connector (DB9m to DB25f adapter included) Centronics, parallel, 36-pin female connector
Optional battery pack, 4–10 hour operation

APR710
Heavy Duty Thermal Printer

The METTLER TOLEDO APR710 is an ideal solution when rugged, precise and accurate label printing is required. With the lowest total cost of ownership in its class, a compact footprint and multiple connectivity options, the APR710 packs the power of a high-volume industrial printer into an easy-to-service modular design. A wide range of media options, including direct thermal or thermal transfer, ensure the printer is ready for the most demanding industrial operation.

Direct thermal or thermal transfer
Up to 254 mm/sec
–
8 dots/mm
Max. print width 108
Roll or fan-fold, die-cut or continuous labels 0.06 to 0.25 mm thickness, 19 to 118mm width
Up to 16MB DRAM, 8MB Flash
Resident Fonts: Ten alphanumeric fonts from 0.03" (0.9mm) to 0.25" (6mm) Resident scalable fonts
Barcodes: Code 3 of 9, UPC-A, UPC-E, Interleaved 2 of 5, Code 128, EAN-8, EAN-13, HIBC, Codabar, Plessey, UPC 2 and 5 digit addendums, Code 93, Postnet, UCC/EAN Code 128, Telepen, UPS Maxi-Code, FIM, PDF417, USD-8, Datamatrix, QR Code, Aztec, TLC 39, Micro PDF417, RSS
262×249×459mm
90–132 or 180–264V AC @ 47–63Hz
UL, CE, FCC
USB, Centronics® IEEE 1284 Parallel port, RS232 at 1200 to 38400 BPS
Peel and present, Internal Rewinder, Cutter, Internal Lan, Internal Wireless Lan

DeviceNet Bridge

Allows for METTLER TOLEDO scale terminal data to be shared with PLC's communicating via DeviceNet fieldbus protocol. Connection is made via the scale terminal serial port.

Dimensions	27×120×76mm (W×D×H)
Operating Temperature	0° to 55° C
Power	24V DC/150mA
Enviroment Protection	NEMA 1/IP20
Mounting	DIN Rail
Approvals	UL/cUL, CE
Conformance	Designed to conform to ODVA standards

A100
Analog Output Module

Analog output module – converts serial weight data into a 4–20mA analog output signal

Input Signals	RS232 (up to 9600 baud), RS485, 20mA current loop, fiber optic. Supports METTLER TOLEDO continuous protocol or SICS Level 0
Output Signal	4–20mA; 0–500Ω impedance
Discrete Outputs	1 Input/1 Output, Open Collector, 5–25V DC; 75mA maximum sink current
Dimensions/Size	74×54×100mm (W×D×H)
Enclosure Types	Standard: Plastic, DIN Rail Optional: SS Type 4X (larger dimensions) Optional: Cast Aluminum Type 9 (larger dimensions)
Power	20–28V DC/300mA, UL Class2

For weight Results from a Distance

ADI310/410
Scoreboard

The ADI310/410 scoreboard provides a highly visible weight display at other locations than where the scale indicator is mounted. The bright LED display is easy to read at distances of 45m or more. When used with truck scales, it allows both the driver and scale operator to read the weight. The ADI310/410 scoreboard is designed for both indoor and outdoor use.

Display	Light-emitting diodes (LED), 6 large characters (10 or 15cm), Gross/Net display
Dimensions	760×188×173 mm (W×D×H)
Housing	Aluminum
Protection	IP65/NEMA 4
Interfaces	Serial RS232, RS422 (multi-drop) and RS485
Power	100V AC to 240V AC, 50/60Hz, auto sensing

ADI320/420
Scoreboard

In addition to the ADI310/410 the scoreboards of this series offer a red/green control light for fast, easy to read results.

Display	Light-emitting diodes (LED), 6 large characters (10 or 15cm), Gross/Net display, Red-Green light
Dimensions	760×188×173mm (W×D×H)
Housing	Aluminum
Protection	IP65/NEMA 4
Interfaces	Serial RS232, RS422 (multi-drop) and RS485
Power	100V AC to 240V AC, 50/60Hz, auto sensing

Active Prevention

ISB(x)
Intrinsic Safety Barrier

The ISB (Intrinsic Safety Barrier) is designed specifically for use in high accuracy/high resolution weighing applications. When installed in a load cell cable between a terminal in a safe area and analog load cells in a hazardous area, the ISB limits the energy delivered into the hazardous area to prevent ignition of a potentially explosive atmosphere. The ISB05 and ISB15 are used for general purpose, safe area use, approved as [EEx ia] IIC in Europe and AIS/I,II,III/1/ ABCDEFG in the U.S.. The ISB5X and ISB15X feature NEMA Type 7/9 flameproof enclosures for hazardous area use, approved as EEx d IIB+H2 [ia] IIC T6 in Europe and XP/I/1/CD T6; DIP/II,III/1/EFG T6 in the U.S.

Dimensions (W×D×H)	**ISB05/15:**	110×115×35mm
	ISB05x/15x:	150×195×140mm
Construction	**ISB05/15:** Covers are ABS plastic	
	ISB05x/15x: Cast aluminum alloy with no more than 6% magnesium by weight	
Operating Voltages	1–5V DC (ISB05), 5–15V DC (ISB15)	
Environment	**ISB05/15:** Dry, non-hazardous areas only	
	ISB05x/15x: Washdown, within hazardous areas	
Haz. area approval	NMi, NTEP, KEMA, FM, CSA	
Housing	NEMA Type 7/9	
Signal processing	Analog	
Accessories	Kit with two 3/4″ NPT conduit sealing fittings, Kit with two 3/4″ NPT to 20mm thread adapters	

Measuring Data at the Click of a Mouse

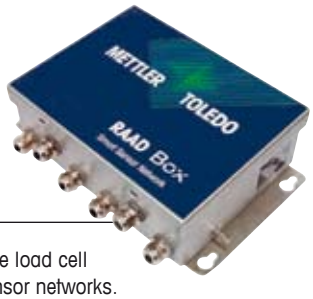
BalanceLink
Communication Software

BalanceLink allows data communication between a variety of METTLER TOLEDO instruments and your application program, including MS Word™, MS Excel™, MS Access™ and many more.

Properties:
- Data transfer at the touch of a button – at a particular time or at defined intervals
- Date and time stamp for each measurement result
- Data can be automatically written to a text file
- Customer-specific formulas for the automatic conversion of measured values
- 5 languages: German, English, French, Spanish, Italian
- Online help

Supported devices
- METTLER TOLEDO balances (requirement of SICS instruction set)
- Balances from third-party manufacturers (open interfaces)
- Analytical instruments and moisture detection devices

Fast Failure Detection



RAAD Box™
Smart Sensor Network

With the RAAD Box™, conventional strain gauge load cell systems can be transformed into advanced sensor networks. Instead of analyzing the combined signal from every load cell in the system, the RAAD Box embeds intelligence into each individual load cell, enabling you to analyze your system at the lowest level. Failures can be detected immediately, guarding you against costly downtime or product waste.

Resolution	Full scale resolution of A/D 500,000 counts per cell
Dimensions	309.8×220×88.7mm (W×D×H)
Protection	NEMA 4X enclosure
Power	Supplied from hosting terminal's data connection

Stay flexible

InSite®
Terminal Configuration Tool

Software based tool used to configure (on- or off-line) terminals. Save configurations, load them to the target device and configure templates.

Specifications	**InSite®** Configuration Tool
Operating Systems	Windows® XP
Required Software	NET Framework 1.1 or later
CPU Speed	Min. 500MHz
Memory	Min. 128MB, 256MB or greater recomm.
Hard Disk	15MB of free space minimum
Display resolution	VGA or higher resolution monitor; 800×600 resolution recommended
Supported Products	IND130/1.0, IND560/1.01, IND780

Designed for your Business
Industry-focused Vehicle Scales

METTLER TOLEDO protects your business by supplying you with accurate truck and rail scales designed to survive in any work environment. METTLER TOLEDO invests in your future by building the most robust weighbridges and unmatched industry leading weighbridge electronics designed for long service life.

Aggregates
Solutions for both on-road and off-road trucks. Unattended stations provide 24 hour operator-free service.

Waste, Recycling and Scrap
Economical solutions for high volume sites. OverDrive® software tracks variables such as carrier and material types for both origination and destination.

Chemical
Reclaim lost profit by weighing trucks filled by flow meters. METTLER TOLEDO scales perform accurately even when installed in a hazardous area.

Transport & Logistics
Static, dynamic truck and rail scales insure that all goods are accurately accounted for and are safe for transit.

Construction
Economical portable scales can be picked up and moved within several hours.

Food & Agriculture
Accurate vehicle scales insure fair trade and governmental compliance throughout the food chain.

All Components from one Supplier

METTLER TOLEDO supports your scale with the world's most advanced measuring system ensuring your scale's accuracy and continued operation.

POWERCELL® MTX® brand load cells – leading the industry in every respect

- In your area – approved world wide
- No corrosion – full stainless steel
- No water failures – IP68 and IP69k protection
- No weather down time – lightning protected
- Low service costs – strong warranty
- 100% confidence – accurate, instant error detection

METTLER TOLEDO high-powered terminals – deliver results

- No mistakes – easy-to-read displays
- To your requirements – custom ticket printing
- Simple connection – Ethernet, most PLC networks
- USB gives easy memory backup
- Protect your user accounts with "alibi" function
- Store it all – multiple transaction registers
- Lower maintenance cost – with predictive maintenance

OverDrive® – best material tracking solution

- Intuitive display – easy to use
- Tracks inbound and outbound material
- See what you want – customized – for your application
- Record – multiple record tables – up to 15
- To your requirements – custom ticket printing
- Supports your financial transitions, taxes, billing, etc.
- Sold and supported worldwide
- Multiple scale support, unattended, traffic lights, barriers, etc.
- For easy data management: Microsoft SQL
- Multiple site operation – site specific data partitioning

- Badge reader
- Printer
- Speaker-Intercom
- Barrier
- Numeric keyboard
- Gate and traffic light control

Hazardous area versions available

www.mt.com/vehicle
www.mt.com/overdrive

Every Possibility for Installation, Foundation and Value

Surface Mount Foundation
- Popular with many customers
- Lower cost compared to built-in foundations
- Easy to clean
- Good when the truck turning radius is large

Shallow Pit Foundation
- Lowest overhead clearance – great for filling
- Lower cost compared to deep pit
- Usually for warmer climates
- Debris cleaned from above
- Requires a drain

Deep Pit Foundation
- Lowest overhead clearance – great for filling
- Good for cold climates
- Scale access through optional access openings
- Requires a drain

Easy installation
- Great in tight spaces
- Lowest cost solution compared to other scale types
- Fast load cell access

Static or Dynamic Weighing

Dynamic Truck
- Customer-specified solutions
- For law enforcement or statistics
- Violation and statistics reports
- Slow, medium and high speed
- Axle weight, axle spacing and wheel weight calculation

Rail Scales
- Static and dynamic
- Capacities to over 400t
- In-ground for best continued accuracy
- Strongest designs available
- Single, dual and triple platforms

Scales designed for your Vehicles

Fabricated steel
Steel weighbridges – Industry leading "orthotropic" weighbridges give you the best value for long life.

Pour-in-place Concrete
These concrete weighbridges allow you to add concrete on site to a prefabricated concrete structure saving transportation weight/cost.

Hybrid
Hybrid steel weighbridges – for low cost transport, easy local assembly and installation. Lowest profile and built-in side rails. Have been successfully in use for decades.

Transportable
Use these light weight, easy to transport scales for several months, then move the scale easily to a new location as your business relocates.

Precast Concrete
Like fabricated steel weighbridges these weighbridges are shipped ready for use. Many of our customers prefer concrete due to aesthetic aspects as well as non-slip performance.

Containerized™
METTLER TOLEDO Containerized™ vehicle scales reduce our customer's transportation costs through packing and shipment in a standard (ITU) shipping container.

Design and test – only by METTLER TOLEDO
All components in METTLER TOLEDO weighbridges are designed and manufactured to the highest quality standards. We expose our weighbridges to a "real-life" testing machines to test the extremes of traffic, load and use. All designs are proven both empirically and in numerous installations **everywhere** in the world.

Vehicle Scale Services
targeted to reduce your Costs

METTLER TOLEDO complements the best vehicle scales with best-in-class vehicle scale installation, calibration, conversion and maintenance services.

Weighbridge and System Installation

Our project managers coordinate all of the tasks, equipment and contractors for an on-time, perfectly specified weighbridge installation. Our specialists are also expert in installing, connect ing and configuring the information technology essential to collecting, recording and networking vehicle transaction data. We work with you in all project phases, saving time and money to guarantee your satisfaction.

Service Aware Scales

Our vehicle scales, terminals and systems incorporate proprietary technologies to make them ServiceXXL friendly:

POWERCELL® MTX® load cells
- Instant digital error checking and diagnostics
- Self-monitoring and reporting

TraxEMT™ Embedded Maintenance Technician
- Maintenance planning and statistics
- Calibration checking & scheduling

Maintenance Predictive
- Monitors for out-of-spec. trends
- Remote monitoring & service alerts

Vehicle Scale Calibration and Service Agreements

Vehicle scales are often indispensable to shipping, receiving, inventory and production accounting operations. But they are also subjected to forces of nature, heavy loads, and steady pounding traffic producing a challenge to maintain accuracy and uptime. Timely, factory-specified services provide the dependability you demand.

The METTLER TOLEDO fleet of heavy-duty test trucks is part of the ServiceXXL promise to keep you up and running. Our heavy capacity test weights are certified to traceable references so we can provide tailored calibration services that ensure accuracy and documentation to industry standards and regulations. If required, we also work with governing authorities to make sure your scale stays legal for commercial use.

Our vehicle scale service representatives are experts at testing, adjusting, calibrating and maintaining your vehicle scales. ServiceXXL vehicle scale maintenance programs include periodic, factory-specified checks and adjustments to provide a long service life and a safe, accurate and productive scale. Allow METTLER TOLEDO to tailor a cost-effective vehicle scale Service Agreement providing just the service you need, when you need it, making sure that nothing slows down your scale traffic.

ServiceXXL®

Tailored Services

METTLER TOLEDO scale installed at McMurdo Station,
the only truck scale in Antarctica (Average temperature -17°C)

Reduce your long term service cost and keep your vehicles moving

METTLER TOLEDO is committed to insuring your long term profitability by reducing your service and calibration costs. The METTLER TOLEDO POWERCELL® system is in use, almost everywhere in the world, protecting our customers from the typical causes of premature scale failure like lightning, rodent and water damage. Your trucks and trains move through your facilities without the risk of an unplanned breakdown and unnecessary extra costs. Moreover, our weighbridges are specified, and tested, for your application and the vehicles you want to weigh. When you consider maintenance and calibration services, for your existing and future scale needs, METTLER TOLEDO will provide the right agreement for value and continued compliance with your local approval agency.

www.mt.com/vehicle
www.mt.com/service

Innovative Solutions
for postal applications

METTLER TOLEDO offers a broad range of scales and accessories for numerous applications to meet your needs within the postal environment. The equipment can be adapted to meet the demands of your system in work areas such as:

- **Point of Sales**
- **Back Office**
- **Shipping**
- **Distribution**
- **Integration**

Find out what METTLER TOLEDO can do for you.

Point of sales applications
The range of scales for POS applications from METTLER TOLEDO at the post office counter and postal retail outlets has proven to bring many benefits to the user and has become a reference amongst European postal organisations. For letter and parcel weighing from 6–35kg, METTLER TOLEDO is able to offer precise weighing solutions without counter space compromising.

Postal expertise at METTLER TOLEDO goes well beyond point of sale
For reference weighing of letters to weighing complete mail room pallets, METTLER TOLEDO scales with weiging ranges from 30kg to 1500kg are ideal solutions for shipping docks, back offices, and sorting rooms.

	Compact Scales	Terminals/ Platforms	Dynamic Scales	Dimensioners	Loadcells
POS	■	■		■	
Back Office	■	■	■		
Shipping	■	■		■	
Distribution			■	■	
Integration	■	■		■	■

Dimensioning
Nowadays the volume of mail can be more important than the actual weight. METTLER TOLEDO has extended its product range in the dimensioning field with a number of scanning and dimensioning devices. Speed, accuracy and identification capabilities are all requirements fulfilled through know-how, competence and reliability from METTLER TOLEDO.

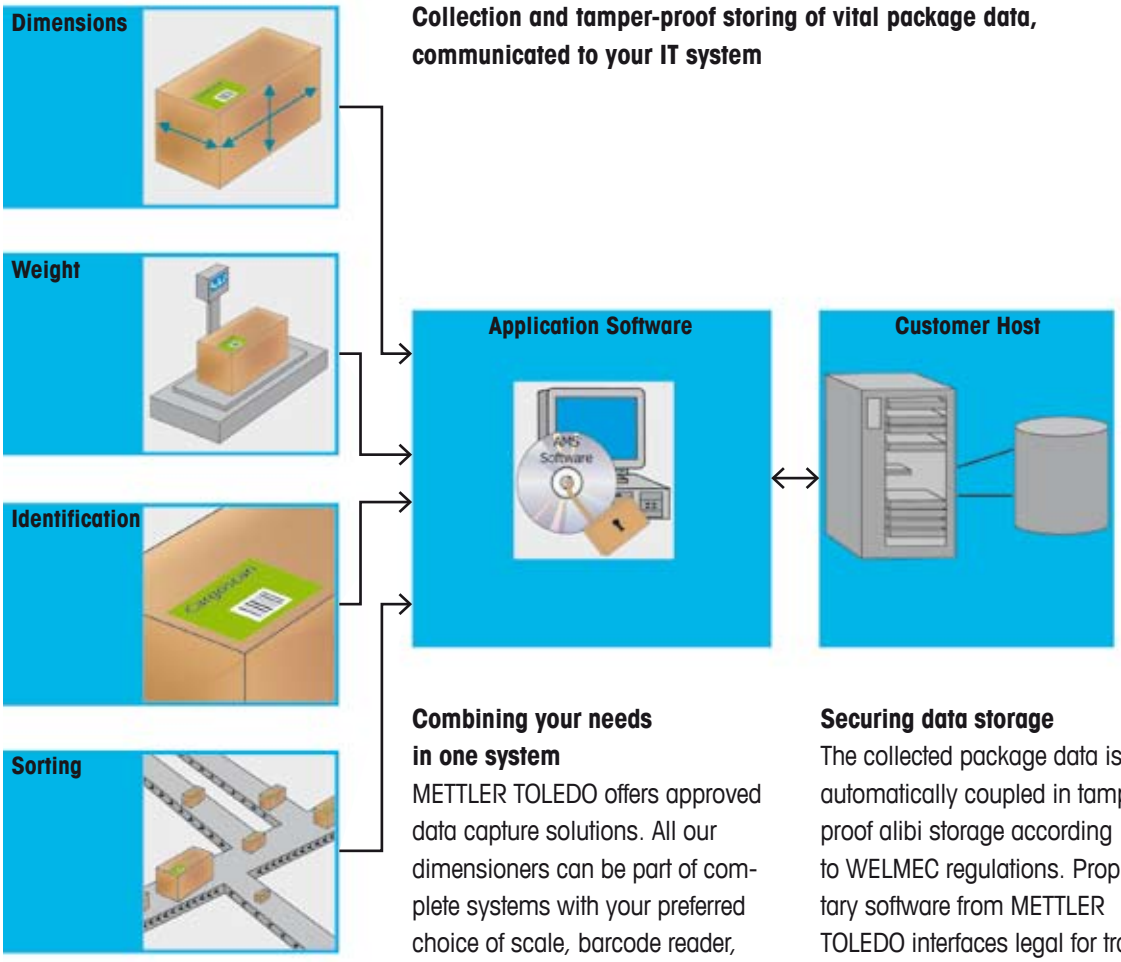
Weight Technology Integration
METTLER TOLEDO is a leader in integrated Point of Sale weighing systems. Retail transactions requiring weight measurement can greatly benefit from METTLER TOLEDO expertise. The high accuracy scales easily fulfill unique postal requirements, their multi-interval weighing ability manages high resolutions for letters and post cards as well as heavy parcels.

The scales can be incorporated into postal self-service devices where letters and/or parcels can be weighed, franked and sent without involving post office personnel available in your corporate colors.

www.mt.com/postal-solutions

CARGOSCAN™ Dimensioning Systems
data capture solutions

Rely on METTLER TOLEDO to tackle the logistic industry's fundamental data requirements, namely: weight, dimensions and identification. Modular system design provides the possibility to build up customized hardware and software configurations to support you throughout the entire data capture process.



Collection and tamper-proof storing of vital package data, communicated to your IT system

For more information on our application software modules, see table page 107.

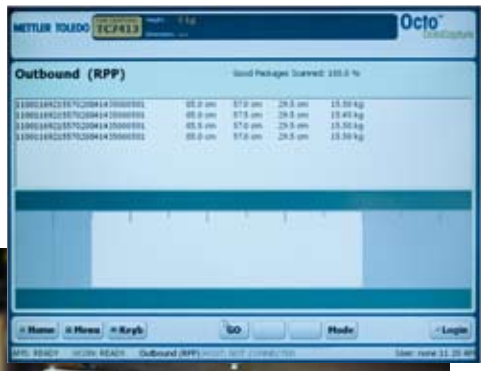
Combining your needs in one system

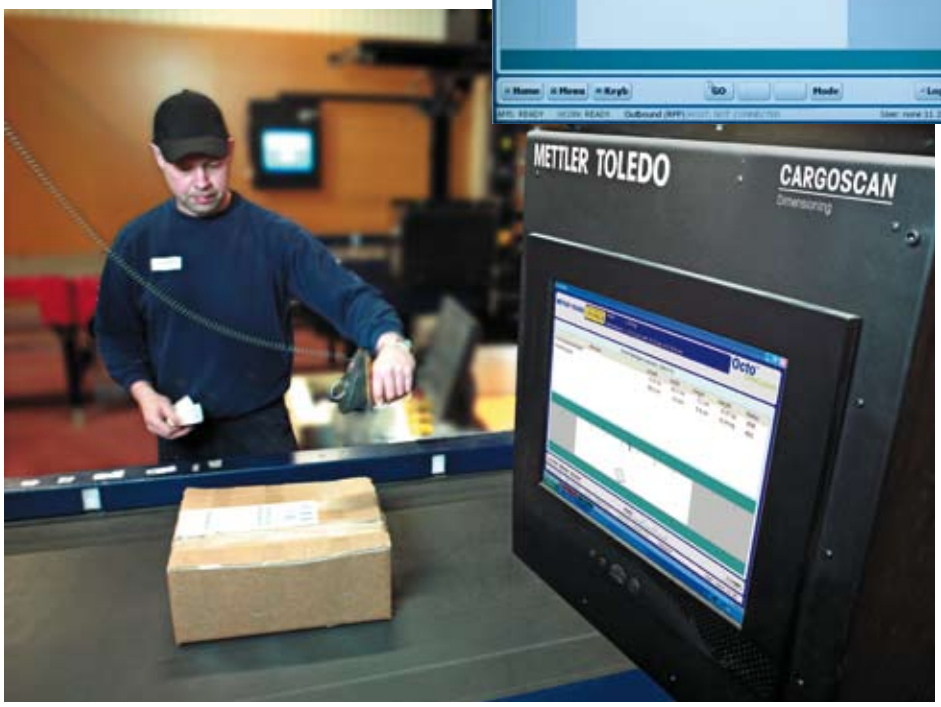
METTLER TOLEDO offers approved data capture solutions. All our dimensioners can be part of complete systems with your preferred choice of scale, barcode reader, stand and workstation. The collected data gives directions to the conveying system, ensuring correct feed and sort of packages.

Securing data storage

The collected package data is automatically coupled in tamper-proof alibi storage according to WELMEC regulations. Proprietary software from METTLER TOLEDO interfaces legal for trade dimensioning and weighing devices. In addition, it interfaces with other third party software.

Advanced dimensioning technology





Communicating with your IT system
Communication with your host computer or warehouse management system is easy to set up. Registration and merging of real-time package data, is communicated to your host such as directly to the track and trace and manifest system. Simultaneously instructions for correct sorting are given to your conveyor system. The operator will at all times have a clear overview of the measuring process, as the registered real time package data as well as goods statistics, are displayed on a user-friendly graphical interface.

Accurate and well proven platform
METTLER TOLEDO has market-leading measuring sensors, standing for maximum accuracy. Our dimensioners are approved according to Weight and Measures Authorities.

Easy connectivity and integration
The setup and calibration of the dimensioner has been designed to meet the functional requirements of a wide variety of customers. This translates into a self explanatory set-up and calibration process which can be done through a web server or configuration utility. The data captured, can be sent via internet or serial communication to host applications, ensuring seamless interface capabilities.

Maximum up-time with remote diagnostics
Our trained systems technicians can access the solutions remotely and review, assess, control and diagnose all parts of the equipment anywhere, anytime. This is especially valuable for:
– diagnosing operator problems during initial usage
– diagnosing failures in the system
– collecting local data stored on the system
– downloading software upgrades
Should an on-site visit be be required, we are well prepared ahead of time.

Robust equipment for rough environments
Our optical measuring sensors are designed to operate in rough industrial environments where extreme temperature ranges and vibrations are present.

The units are sealed to resist dust and dirt, ensuring uncompromised protection. External lighting is not necessary; the lasers can handle dark as well as bright light and are completely safe for human exposure.

www.mt.com/cargoscan
www.mt.com/dimensioning

Interconnectivity and Oversight
with supervising software

With METTLER TOLEDO Dim Central™, you can have full oversight of your data capture equipment, no matter where it is located.

Dim Central™ collects information every second and reports real time data to one or more of your central PCs. If values drop below a specified limit, the operator can automatically get a message by SMS or e-mail.

In addition to monitoring, Dim Central™ stores statistical data. The reports can be delivered to you in formats such as Excel.

The supervisor screen gives you an overview of your complete install base, providing you with a real time status for each data capture solution on:

- status of systems
- number of packages processed
- number of no reads
- number of packages not dimensioned
- number of packages lacking weight
- and more

CSN810 TableTop™
static dimensioning for operational flexibility

Stand Alone or Integrated Configuration

The CSN810 is designed to measure the dimensions of rectangular objects placed on a level surface. Mounted overhead, the unit takes up no floor space, demands little or no reorganization of existing operations and allows unrestricted movement under the dimensioner.

Typically, the CSN810 is used in manual handling applications where an operator places a package on a bench scale under the dimensioner, triggers the instrument, and within just a few seconds the dimensions are displayed. Computer applications connected to the CSN810 can easily automate the process and collect data without operator intervention.

Model	CSN810 TableTop
Accuracy	+/- 5mm
Max. size (L×W×H)	1150×900×900mm 1200×900×900mm
Min. size (L×W×H)	50×50×50mm 100×50×50mm
Throughput	> 400 objects/hour
Shape	Regulars
Software accessories	Static application software
System accessories	Legal for trade display, stand with roller table and integrated scale, stand with flat table, application monitor, barcode reader, keyboard

www.mt.com/cargoscan
www.mt.com/dimensioning

CSN840 Pallet™
static dimensioning for larger goods

Versatile Integration Capabilities
The CSN840 is ideal for measuring larger sized items of all shapes with its extra long range view. Mounted overhead, the CSN840 offers operational flexibility and increased measuring speed.

The CSN840 is typically used for measuring pallets within a goods terminal complementing floor scales. The device is capable of measuring pallets with a wide variety of surface characteristics such as glossy black plastic, and overhanging and outcropping parts that are difficult to measure, even manually.

Model	CSN840 Pallet
Accuracy	+/- 20mm
Max. size (L×W×H)	1830×1830×2600mm
Min. size (L×W×H)	200×200×200mm
Throughput	> 250 objects/hour
Shape	All solid shapes
System accessories	Legal for trade display, stand floor scale, workstation with monitor, barcode reader, keyboard, and printers

TLX MultiCapture™
dimensions, weight and ID in one operation

TLX MultiCapture™
TLX is a multi data capture solution that combines state or the art weighing, dimensioning and auto ID technologies. Parcels travelling in-motion on a conveyor are automatically spaced, then dimensioned, weighed and identified in one operation. The data is merged and sent to your IT system in one file providing you with a complete parcel profile. Simultaneously TLX gives signals for correct sorting of the parcels.

The modular concept of TLX provides the possibility to build up customized configurations from basic letter checking to integration to high end sorting systems. TLX can be delivered as fully automatic or with the facility to manually key in information when an object is missing necessary data. Several reading configurations are available for maximizing your read rate. The data capture solution is easy to integrate into high speed conveyors, measuring up to 3, 0 m/s.

TLX has an accuracy level of +/- 2 mm height, detecting everything down to single sheets of paper. This gives the opportunity for a dramatic increase in revenue recovery with the possibility to measure flat objects such as envelopes.

TLX introduces OCTO™ data capture software specially developed by METTLER TOLEDO. This new application software platform can be customized to meet individual operational needs and will soon be available in all CARGOSCAN™ dimensioning solutions.

Model	TLX MultiCapture
Accuracy	± 2mm in height, ± 5mm in length and width
Max. size (L×W×H)	150×50×25mm
Min. size (L×W×H)	150×20×100mm
Shape	Regulars: CSN910 option. All shapes: CS5200 option
Readability	60/120kg
Max weight	60kg
Min weight	100/250g
Max belt speed	27–90m/m

Specifications depend on project requirements and frame conditions. May vary from project to project.

www.mt.com/cargoscan
www.mt.com/dimensioning

CS5200 MassFlow™
dynamic dimensioning for high throughput

CS5200 MassFlow™
The CS5200 is the ultimate solution for non-manned, high-volume applications maximizing throughput and handling larger-sized items. Regardless of belt direction, the CS5200 captures the volume of every single object, even those moving together in clusters. Being the most versatile dimensioner of the CARGOSCAN™ range, the CS5200 is also used to measure goods that are difficult to transport on a conveyor.

The dimensioner has two alternatives for configuration:
- Mass flow of spaced objects for irregular shapes
- Mass flow of touching objects for rectangular shapes

With no need for split in the conveyors and over the belt installation, the dimensioner does not influence existing operations.

Model	CS5200 Massflow
Accuracy	+/- 5mm
Max. size (L×W×H)	2500×1980×920mm
Min. size (L×W×H)	50×50×50mm
Throughput	> 30000 objects/ hour
Max belt speed	> 2.7m/s
Shape	Irregulars
Spacing	None
Software accessories	Touching and highspeed dimensioning software Dynamic application software
System accessories	Stand, barcode readers, monitor, keyboard, light signal, alibi memory, high speed kit, scale

CSN910 FlexFlow™
dynamic dimensioning with a small footprint

CSN910 FlexFlow™
The CSN910 is designed to measure regular shaped objects, as they move one by one under the scanning unit. Front and backside of the items can touch each other and the belt can move in both directions when measuring. Operator assistance is not required. Designed to be mounted overhead, the dimensioner does not require a split in the conveyors.
The CSN910 is a complete dimensioning unit, fast and cost effective to integrate with other applications. The dimensioner is easy to place and mount in retrofit applications such as on top of: dynamic weighers, extendable and boom conveyors, unloading systems, scanning tunnels, fully-automatic sorting systems and more.

Model	CSN910 Flexflow
Accuracy	+/- 5mm in length and width, +/-2mm in height
Max. size (L×W×H)	2500×900×900mm or 2500×1200×700mm
Min. size (L×W×H)	50×50×25 mm
Throughput	> 10000 objects/hour
Max belt speed	> 3.0m/s
Shape	Rectangulars
Spacing	None
Software accessories	Dynamic application software
System accessories	Stand, barcode readers, scale, monitor, keyboard, light signal, alibi memory

One Data Capture Solution
for every application

Depending on your operational environment, METTLER TOLEDO has the applications required. We add value and performance to your processes, all in one data capture solution.

Warehouse
Shipping, storage and supply of products are increasingly the focal point for operational improvements. A data capture solution enables warehouses to overcome challenges, such as exploiting and maximizing capacity, improving quality control and increasing revenue protection.

Carrier, express and post
To reflect the carrier's cost structure, measuring dimensions are essential for implementing a good method for accurate invoicing and a just price structure. The increase in automation that follows helps quantify your productivity, achieving higher efficiency and control.

Point of sales
Today most drop-off centres base their charges on weight only. Carriers however charge both on weight and dimensions. As these services are paid for up front, it is vital to capture the actual dimensions and weight at point of payment.

Delivering value
in warehouse processes

Process	Receiving	Order managing		Shipping
Application	– Updating inventory database	– Packing	– Checking	– Manifesting
Value	– Resource capacity planning – Capturing package data – Control content of supply	– Reduce packing material and shipping costs	– Verify package data – Reduce returns of wrong or damaged packages	– Know actual transport costs for correct billing – Improve carrier selection

in transport processes

Process	Outbound and Inbound					
Application	– Manifesting	– Tracking	– Checking	– Labelling	– Counting	– Sorting
Value	– Accurate package data for correct billing	– Updating package status for track and trace	– Verify package data – Rejected package stopped or diverted for check	– Label packages with no or incomplete ID – Valid internal code for track and trace	– Report number of packages scanned vs. manifest – Quantify productivity	– Correct sorting of packages to lanes

in point of sales processes

Process	Retail drop-off
Application	– Manifesting
Value	– Know actual transport costs for correct billing – Avoid back charges – Improve carrier selection

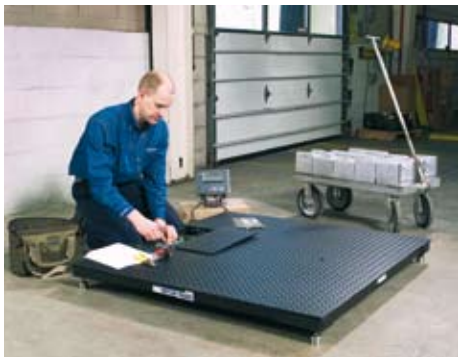
ServiceXXL
for your dimensioning system

Dimensioning system services
Your CARGOSCAN™ dimensioning system is perfectly complemented by METTLER TOLEDO ServiceXXL. We will tailor installation, calibration, repair and maintenance services into a package that ideally fits your needs and budget.

Dimensioning system installation and integration
We focus our experienced project managers and service representatives on coordinating the on-time start-up of your dimensioning system. ServiceXXL specialists are also expert in integrating information technology vital to capturing, recording and networking package identification, weight and dimensional data. We know that your return on investment begins with routine package data collection.

Dimensioning system calibration and service agreements
ServiceXXL solutions for calibration, repair and proactive service permit you to continuously leverage your dimensioning system to add revenue and boost your bottom line. We will also help to make sure that your measurements satisfy legal requirements for use in commerce. Whether your dimensioning system inputs data to a shipping manifest system or is part of a high-speed, package sorting solution, METTLER TOLEDO can provide a Service Agreement that keeps packages moving, day-after-day.

ServiceXXL for your dimensioning system:
- Timely installation and start-up
- System and data integration
- Performance qualification and certification
- OEM service parts and on-site repair
- Remote diagnostics and support
- Preventative maintenance
- Tailored, cost-effective service programs



ServiceXXL®
Tailored Services

www.mt.com/cargoscan
www.mt.com/dimensioning

Profit from the World's Leading Supplier: Product Inspection Systems

The Safeline and Garvens products and the supporting services address the specific needs of the food and pharmaceutical manufacturing industries. They are able to manage physical contaminants, product weights and product integrity throughout your processing and packaging operations.

Product Safety and Integrity
All Product Inspection equipment meets or exceeds HACCP, NEMA 4X and various hygiene standards (such as IP65 and IP69K). In addition, you profit from user training seminars, performance validation and process audit programs to ensure guidelines are adhered to and reliably maintained.

Equipment Durability
The checkweighing, metal detection and x-ray inspection systems offer an unbeatable combination of sensitivity, ease of use and reliability to deliver consistently high performance inspection in the toughest production and sanitation environments. They are built to the highest sanitary design standards and will withstand the rigors of the harshest washdown procedures.

Product Quality
Your brand's reputation depends on safe, accurately filled, consistent products. The Product Inspection team will work with you to address issues such as inefficient filling, false rejects and downtime. You can count on our sales and engineering teams to tailor an inspection solution that you can rely on.

World's first!
XS3 AdvanCheK
precision weighing and reliable detection of foreign bodies

This unit combines true weight measurement with the world's best sensitivity X-ray inspection. The X-ray CombiWeigher "XS3 AdvanCheK" not only offers highly accurate weighing results but also simultaneously checks your products for foreign bodies, protecting not only consumers but also the good reputation of your brand. The X-ray system can detect contaminants such as metal, glass and stone. Minimum training is required to set up menus, thanks to an "auto set-up" software wizard ensuring minimum downtime. The X-ray CombiWeigher from METTLER TOLEDO is a compact and cost effective solution, ideal for use in the food industry.

GARVENS

Checkweighing

In-Line
Garvens XS1 Checkweigher

The XS1 is a particularly compact design of the proven "X Series" range of dynamic checkweighers. It is specifically designed for handling small size/footprint products in high-throughput production lines. The small, lightweight conveyors ensure a high weighing accuracy is maintained even when operating at high belt speeds. Its compact design ensures that the Garvens XS1 can be easily integrated into most existing production lines.

In-Line Checkweighing

Eliminate underweight product from being shipped, and costly overfill. Garvens solid, heavy-duty construction provides a rugged, stable foundation for precise and consistent checkweighing. Programmed speeds can be stored with product set-ups for fast and easy product changeover. Control options such as statistics, filler feedback control and comprehensive connectivity packages make our checkweighers fit seamlessly into any production line.

High throughput
Garvens XS2 MV
for checkweighing – marking – vision control

This pharmaceutical checkweigher is the perfect base for track & trace and is fully compliant with FDA, 21 CFR part 11. This combined checkweigher and marking/vision control solution is safe, compact and makes use of the lastest anti-counterfeit technologies such as 2D Datamatrix Code marking.

- Checkweigher with integrated marking and vision control system
- Full support of IQ, OQ, PQ and validation
- Printing of batch-numbers (lot), expiry date, sequential numbers and bar codes
- Ensures traceability of pharmaceutical products

XS2

XS100

Proven quality
Garvens XS Checkweighers

Proven Garvens quality, new approaches to operation and flexible, modular design are the basic assets of these state-of-the-art weighing systems. The standard design includes a height adjustment device, reversible direction of transport and continuous belt speed control. The modular concept of the X Series allows for ease of servicing and ensures that they can easily be extended by further options.

Garvens XS2 Checkweigher
Weighing range: up to 600g
Throughput: up to 400 pcs/min.

Garvens XS3 Checkweigher
Weighing range: up to 6000g
Throughput: up to 400 pcs/min.

Garvens XS40 Checkweigher
Weighing range: up to 40kg
Throughput: up to 100 pcs/min.

Garvens XS100 Checkweigher
Weighing range: up to 120kg
Throughput: up to 80 pcs/min.

www.mt.com/pi
www.mt.com/garvens

Economic & flexible
Garvens XE Checkweighers

State-of-the-art, dynamic weighing technology at an economical cost. The standard design of this model comprises of a device for height adjustment as well as reversible transport direction and variable speed control. The Garvens XE model allows for upgrading and a wide range of options to closely meet the users requirement. The modular concept makes the XE models very service-friendly, requiring little maintenance.

Garvens XE2 Checkweigher
Weighing range: up to 600g
Throughput: up to 200 pcs/min.

Garvens XE3 Checkweigher
Weighing range: up to 6000g
Throughput: up to 200 pcs/min.

Garvens XE40 Checkweigher
Weighing range: up to 40kg
Throughput: up to 100 pcs/min.

Garvens XE100 Checkweigher
Weighing range: up to 120kg
Throughput: up to 80 pcs/min.

New hygienic standard
Garvens XS3 H Checkweigher

HACCP checkweigher – product and water build-up contamination is minimised by avoiding level surfaces on the conveyor and weighcell supports, as well as the exclusive use of round tubes on the horizontal section of the frame.
The minimal contact conveyor support clamps and open frame construction facilitate cleaning. Seam welding improves hygiene and reduces the risk of bacteria build-up. A reduced number of support legs, self-draining framework, hygienically designed cable runs and an additional customer cable duct makes this checkweigher optimal for use in the food industry.

Rugged design
Garvens XE40 Checkweigher

The XE40 checkweigher is an extremely versatile and dependable checkweighing solution for loads up to 40kg. It has a memory capacity for up to 100 products and a 5.7" colour touchscreen interface. This makes the XE40 checkweigher perfect for use in logistics and end-of-line packaging applications, where strict demands are placed on accuracy and ease of operation.

Trouble-free operation
Garvens Chain Checkweigher

For optimum production flow and maximum hygiene – your first choice for difficult applications. The chain checkweigher ensures that even tall products with a small footprint are transported quickly and gently over the checkweigher. Robust design, state-of-the-art weighing technology, water ingress protection and stainless steel parts ensure troublefree operation under harsh production conditions. The easy access design simplifies the cleaning process, making the chain checkweigher ideally suitable for use in wet environments. They can be adapted fast in a few simple steps for different products. Various options for product transport ensure optimum product infeed.

The Policeman
Garvens XC

Proven weighing technology in compact design at an attractive price. Developed for simple weighing tasks: Policeman checkweighing with a weighing range of up to 6000g.

All in One
Garvens XS3 CC CombiChecker

The Garvens XS3 CC CombiChecker combines a checkweigher and a metal detector in one unit. As the products pass through the CombiChecker, product weights are measured and metal-contaminated products are separately rejected by two pneumatic pushers or other rejecting devices. The checkweigher weighing terminal displays weights, counter levels of the weight zones and metal contaminated products, and provides statistical production information. Its hygienic design facilitates cleaning and meets the guidelines for food processing industries.

HACCP and optional IP69k Ingress Protection
Garvens XS3 CC H

This combination checkweigher checks whether products are on-weight and free of metal contamination in one process, reliably rejecting those which do not conform. Specifically designed for the food industry with optional IP69k ingress protection. HACCP concept with smooth surfaces for optimum hygiene. The hinged 15″ touch screen colour display can be tilted and swivelled for optimum visibillity and ease of operation.

Accuracy at its best
StarWeigh XS for Lightweight, unusual shaped Packages

The StarWeigh XS rotary stepper checkweigher has proven to be the absolute best solution for checkweighing of a wide range of package sizes. High value products typically require 100% inspection and the StarWeigh XS is the perfect solution for highly accurate checkweighing of round, oval, and even rectangular shaped packages. StarWeigh XS delivers milligram accuracy at a throughput up to 400 weighings/minute. Simple to install and requiring no line cuts, the StarWeigh XS can integrate packaging lines by simply straddling the existing conveyor.

www.mt.com/pi
www.mt.com/garvens

Accuracy, Dependability and Ease of Use

The control panels of METTLER TOLEDO Safeline® metal detectors provide operators with a simple, intuitive interface for set-up and adjustment. These detectors require minimal operator training, intervention or maintenance. An effective metal detection programme can provide the solution to eliminating metal contamination all processes from raw materials entering your plant through to the inspection of finished packages.

Signature technology

The Signature electronics platform has long been the industry standard for industrial metal detectors. Simple operation is delivered through a robust, menu driven membrane style key panel providing fast set up and minimised down time for maximum plant efficiency.

Profile technology

The Profile electronics platform offers the latest technology for the operation of metal detectors. Operation is via a modern, full colour touch screen. This windows style, icon driven interface provides intuitive, easy to follow guidance for rapid set up, product change over and performance validation routines. Historical data can be analysed on screen through a series of histograms enabling trends to be monitored for better control of the product inspection process. Profile technology also offers improved connectivity options and advanced built in condition monitoring technology. This system provides constant self assessment of key system elements and gives advanced warning of potential problems allowing planned maintenance routines to be initiated.

T Series metal detectors for vertical packaging applications

Designed to detect metal contaminated product in vertical packaging applications, METTLER TOLEDO Safeline's T Series detectors provide the optimum solution for the inspection of in-flight product prior to depositing into sealed packs.
Unrivalled levels of detection sensitivity are attainable through sophisticated Signature and Profile electronics operating systems.
One of the challenges for metal detectors in vertical packaging applications can be the limited space between weigher and bagger. T Series detectors use unique zero metal free zone (ZMFZ) and internal cancellation field (ICF) technology to eliminate interference from nearby metal structures, ensuring the highest performance and maximum stability in reduced spaces.
The robust control panels are designed to simplify operations by reducing downtime and speeding up product changeovers. The operation panel can be mounted in a remote location.

Metal detectors for gravity fall bulk powder and granular product applications

Designed to detect and reject metal contaminated product in bulk gravity fall applications, METTLER TOLEDO Safeline's Sealtite, open diverter and 'Y' valve diverter systems provide the optimum solution for the inspection of bulk powdered and granular products. Unrivalled sensitivity allows for the detection of all metal contaminants in-flight including the normally difficult to detect non-magnetic stainless steels.
Sealtite diverter technology is well suited to fine particle or dusty products whilst open diverter technology is more suited to products with larger particles reducing the risk of blockages. 'Y' valve diverters offer the ultimate in easyclean technology for maximum up time and plant efficiency. All systems are available using Profile or Signature operating systems and are designed for minimised overall height allowing them to be installed in applications where space is very restricted. Optional Atex compliant designs are available for use in potentially ex-plosive environments. These designs comply with Atex Ex II Cat 2D T79 C.

R Series metal detectors

Designed for easy integration into food production lines, R Series detector heads deliver high performance in-line metal detection. Unrivalled levels of detection sensitivity are attainable through the sophisticated but easy to use Signature and Profile operating system electronics platforms. All metal contaminants are detectable including ferrous, non-ferrous and even difficult to detect non-magnetic stainless steels. R Series heads are suitable for use in a wide variety of general industrial metal detection applications and when combined with materials handling systems such as conveyors, product inspection can be fully automated.

Pipeline metal detection systems

METTLER TOLEDO Safeline's pipeline detectors are intended for use in the food industry and are built around well proven L and LZ series detection heads. These rugged, compact systems are suitable for the inspection of liquids, pastes and slurries; e.g. sauces, soups, preserves, liquid chocolate, meat pastes, etc.
Systems use the Signature electronics platform for operation. The operator interface is via a robust membrane key panel.
Heads and systems can be designed using METTLER TOLEDO Safeline's unique ZMFZ technology which minimises overall system length allowing them to be inserted into new or existing lines where space is restricted. A wide variety of reject valves are available to suit all product types allowing detection and rejection processes to be fully automated.

Metal detectors for the pharmaceutical industry

Ultimate sensitivity for maximum protection of pharmaceutical products is guaranteed with METTLER TOLEDO Safeline's tablet and capsule inspection systems. Tablex systems identify metal contaminated product resulting from broken screens, sieves, worn punches, dies or raw materials and removes the contaminated tablets and capsules. Offering the ultimate in flexibility, these systems utilise a unique triple axis detection head that features 'no-tool' adjustment to fit any tablet press output configuration. An extremely small footprint minimises space requirements and the stainless steel mirror finish is designed to exceed strict pharmaceutical industry standards. Contaminated product is rejected into a separate bin for analysis and disposal. Tablex has been proven to detect minute particles of ferrous, non-ferrous metal, all grades of non-magnetic stainless steel and fine screen wire in a variety of metal types. Advanced coil design and sophisticated digital signal electronics provide optimum sensitivity and stability, resulting

in metal detectors unrivalled by any other model. Operating security is ensured with the self check capability which continuously monitors sensitivity and sounds an alarm if a failure occurs. A separate reject confirmation system monitors the effectiveness of the reject device and will activate an alarm if metal is detected and the reject fails to respond within a preset time.

Brand Protection
at the Touch of a Button

METTLER TOLEDO Safeline offers a range of in-line x-ray machines for contamination detection, portion control and package integrity inspection for bulk, glass and packaged products in the food and pharmaceutical industries. Integrating x-ray inspection systems into your quality management programme will help to prevent product recalls, the cost of which can run into tens of millions of dollars, and protect your brand reputation.

Benefits of Safeline's x-ray inspection systems

- Assurance of product quality and brand protection
- Adaptive technology to ensure maximum sensitivity and accuracy of contamination detection
- Detection and elimination of metal, stone, glass, bone and high density plastic
- Low energy x-ray systems yielding lower running costs due to increased reliability
- Highest hygiene standards in the industry to help control bio-contamination
- Automatic product setup in minutes to maximise uptime
- Full traceability via a unique user sign in system
- Range of connectivity options for remote diagnostics and control

AdvanCheK x-ray inspection system

Contamination detection in finished products

A fast, reliable and economic method of contamination detection, the AdvanCheK system delivers contamination detection of dense foreign bodies such as glass, metal, stone and bone. There is no loss of sensitivity with foil or aluminium packaging, or products with a high moisture content, guaranteeing your product safety.

Minimum downtime
Sophisticated yet simple to use, the intuitive user interface gives you full control. No previous x-ray knowledge is required to set-up the system which can be ready to use in minutes, without the need for an engineer.

Efficient cleaning saves time
Hygienic by design, both the conveyor and cabinet are robust to harsh wash down environments required by the food and pharmaceutical industries (sealing to IP69K available). With easy access to machine areas high sanitary standards can readily be achieved and maintained, reducing down time.

GlassCheK x-ray inspection system – when safety really matters

Optimised for the x-ray inspection of glass jars and bottles, SAFELINE's dual beam approach to detection ensures elimination of foreign bodies such as glass, bone, stone and metal and also checks for fill levels and mass. The unique adaptive technology accounts for the inevitable variability of glass containers without compromising sensitivity whilst also minimising false reject rates.

InspireX range of x-ray inspection systems – when quality really matters

The ultimate product integrity check can be performed by the InspireX range of x-ray inspection systems, with designs for bulk products, liquids or products in their final packaging. Whether inspecting individual products or cases of items, a wide variety of inspection widths are available (from 300mm to 800mm), which are suitable for single or multiple lane inspection. Combined with a choice of reject mechanisms, configurations can be adapted to suit your individual application. With the functionality to not only eliminate foreign bodies, but also measure gross and zoned mass to ensure portion control, seal inspection to maintain product freshness, and scanning for damaged or missing items for product quality, ensures brand integrity.

X-ray inspection for the pharmaceutical Industry

SAFELINE's dynamic control of x-ray generation offers superior sensitivity to contamination detection and product integrity checks. Missing or partial tablets can be identified in blister packs, packaged in single or multiple layers. The presence of a leaflet within a box can also be confirmed, ensuring compliance with regulations.

Pipeline x-ray inspection systems

The InspireX R70 pipeline system can be used to detect contaminants such as metal (down to 0.8mm) and bone (down to 3.0mm) in addition to glass, stone and high density plastic. The risk of bio-contamination is reduced through the equipment's hygienic design built to IP69K standard (aseptic option available), allowing the high pressure, high temperature washdowns often required in the food industry. Downtime is minimised as x-ray calibration is fast and efficient. Unique to SAFELINE, the x-ray generator and detector retract from the pipeline without the need for manual intervention, saving both time and money.

Keep Operations moving
when Labelling is crucial

Short production runs with frequent label changes? Non-stop labelling? Both? Getting your fresh foods labelled fast and accurately is our highest priority. The ILS Series has a cost effective solution to simplify your critical weigh-price labelling requirements.

Covering your changing Requirements
Traceability, ingredient, label, logo and text libraries, order and customer management are just a few of the innumerable features that cover your labelling needs now and in the future.

Easy to use
Operation is intuitive, fast and correct. All models use the same graphical interface. Users focus on the production, not on reading manuals.

Be creative and distinctive
Design labels with logos, images and Windows fonts to differentiate yourself and increase retailer awareness. Design is easy; using the same design tool on the unit or in the comfort of an office on a remote PC.

Increase your Uptime
Article selection, managing customer orders and changing label rolls is fast and easy. The rugged service oriented design ensures years of trouble free operation.

Total Control
ILS Client with WALIS host communication means you have total control over the labelling process. Order data is downloaded from the host and operators use only a few keys to start the labeling process.

Manual Labelling

ILS M Series

Both the MP (with built in printer) and MT (terminal only) can be connected to 3rd party printers handling almost any label size.

Automatic Labelling

ILS A70

For the midrange of automation ILS A70 combines exclusive features with a reasonable price.

Automatic – high Throughput

ILS X Series

High capacity and throughput with integrated automatic operations are the key words describing the ILS X series.

Model	MT	MP	ILS A70	ILS X140	ILS X100	ILS X60
Pack size	Almost any size		Medium	Medium	Long	Heavy
Max. article dimensions	Not applicable		320×260mm	350×320mm	550×320mm	750×320mm
Max. wt	3–3000g [1]		6000/12000g	5000g	5000g	25000g
Min. wt.	10–1000g [1]		40g	20g	20g	100g
Resolution	0.5–50g [2]		2/5g	1g	1g	2g, 0–12kg 5g, 12–25kg
Max. label size	Unrestricted [2]	200×80mm [2]	120×80mm	100×100mm (180×112mm optional)		
Throughput	Manual labelling [3]		70 packs/min	140 packs/min	100 packs/min	60 packs/min
Attachable platforms	1 IDNet platform [1]		Not applicable	Not applicable		
Automatic printers	Not applicable		Top and bottom	Top and bottom	Top and bottom	Top
Special features	Terminal only	Terminal with built inprinter	Automatic label placement and article guidance system	Optional metal detectors, reject stations, label applicators, checkweighing, connection to FreeWeigh.Net®		
Attachable printers	Up to 3 third party printers for printing box totals, pallet totals, and order reports					
Accessories	LabelCreator label designer for PC, handheld bar code reader, and remote monitoring					

[1] The ILS M series can connect to any of the IDNET weighing platforms. Check the desired platform for detailed scale specifications.
[2] The maximum label size is depended on the 3rd party label printer chosen.
[3] Throughput is dependent upon label length, complexity of print, weight, size, shape of item and printer type (top or bottom). Optional equipment may be required to reach maximum throughput. Throughput might be higher or lower than stated.

Excellence
from 0.1mg up to 64kg

Excellence precision balances offer world-leading weighing performance thanks to MonoBloc® High Speed technology, unprecedented ergonomics and advanced solutions for data management. They enable full compliance, increase productivity and guarantee connectivity in all environments. Hands-free operation and wireless Bluetooth communication are just some of the amazing solutions possible.

Excellence Plus XP

Innovative QM-tools and a colour touchscreen display for secure and documented results compliant with regulations. Peak weighing performance and hands-free operation boost productivity.
A wide range of clever accessories enable tailored solutions.

Excellence XS

High speed, robust construction and ease of use for unmatched performance in high-throughput environments. For utmost efficiency in daily routine weighing. Year-in, year-out.

410g–64.1kg

Models	Excellence Plus XP		Excellence XS	
Max. Capacity/ Readability	410g/0.1mg	Ø 90 (S)	1010g/1mg	127×127 (S)
	5100g/1mg	127×127 (S)	6100g/10mg	170×205 (S)
Weighing Platform (mm)	10 100g/10mg	170×205 (S)	8100g/0.1g	190×223 (S)
	12 100g/10mg	237×237 (M)	16 100g/0.1g	237×237 (M)
	10 100g/0.1g	190×223 (S)	32 100g/0.1g	360×280 (L)
	20 100g/0.1g	237×237 (M)	16 100g/1g	237×237 (M)
	64 100g/0.1g	360×280 (L)	32 100g/1g	360×280 (L)
	20 100g/1g	237×237 (M)		
	64 100g/1g	360×280 (L)		
Interfaces	Standard: RS232 Optional: RS232, Ethernet, PS/2, Bluetooth multi-point (BT), Bluetooth single-point (BTS), MiniMettler (MM), LocalCan (LC)		Standard: RS232 Optional: RS232, Ethernet, PS/2, BT, BTS, MM, LC	
Calibration	proFACT: Fully automatic time and temperature controlled internal adjustment.		FACT: Fully automatic internal adjustment	
Applications	MinWeigh, Piece counting, Statistical evaluation including +/- weighing, Advanced formulation, Dynamic weighing, Weigh on a nominal weight, Percent weighing, Density determination, Differential weighing, Custom unit As option: LabX balance, XP SQC		Piece counting, Statistical evaluation, Percent weighing, Formulation, Density determination, Dynamic weighing As option: LabX balance	

For high-performance Weighing

Excellence Plus XP

XP Precision Balances offer maximum security. The touch-screen display guides the user through applications and warns with colour if tolerances are violated. Innovative built-in QM tools enforce quality guidelines and manage passwords and access rights for up to 8 users. Thanks to hands-free operation and wireless data transfer with Bluetooth, weighing toxic substances becomes safer than ever.

Capacity: 210g to 64kg
Readability: 0.1mg to 1g

▶ **www.mt.com/XP-precision**

ErgoSens
Freely placeable, individually configurable – for hands-free operation. The illuminated green symbol shows for which function the ErgoSens is activated.

Stand
To save space and protect it from dirt, the terminal can also be mounted on a stand.

For high-speed Weighing

Excellence XS

The Excellence XS precision balances are made for those who want to get their work done faster. High-speed weighing technology, Bluetooth wireless connectivity, simple operation and a rock-solid design with overload protection make it an uncompromising non-stop runner, a balance that increase efficiency in all environments.

Capacity: 210g to 32kg
Readability: 1mg to 1g

▶ **www.mt.com/XS-precision**

Bluetooth
Wireless connection between the balance and printer as far as 10m apart is possible. Place the printer just where you want it – with no cable to worry about.

For direct Integration

Excellence X Platform

The X platform is designed for high precision and high performance in weighing under special conditions, such as in robot-automated systems, for integration in manufacturing equipment or as a reference balance in counting applications. The X platform has a standard RS232 interface and can communicate via Ethernet or LocalCan for easy system integration. The X Platform can be used without any terminal or together with the IND4xx or IND690 terminals through the MT-SICS commands.

Capacity: 210g to 64kg
Readability: 0.1mg to 1g

▶ **www.mt.com/X-platform**

Also available for Ex Zone 2: Page 82/83

Our many Solutions in Enhancing Processes throughout your Organisation

The array of METTLER TOLEDO solutions helps you address each of these critical challenges. Through our instruments, software and services, you can streamline processes, improve product quality, enhance throughput and achieve compliance. We believe we have earned a leadership position in our industry not merely because we offer amazing solutions, but because our solutions offer amazing value to customers like you. All of our solutions are aimed at giving you a competitive edge in your markets.

Our **laboratory solutions** provide vital assistance in research and development, drug discovery and quality control.

Our **industrial solutions** enhance your production, packaging and logistics capabilities.

And our **retail solutions** target key applications from receiving through checkout.

What's more, our solutions give you marked advantages in areas of great importance to most industries – **connectivity, innovation, service** and **regulatory compliance.**
In addition, our unmatched global reach enables us to provide solutions and comprehensive support capabilities virtually everywhere your business is located.

We'd like you to think of us as your singular resource for precision instrument solutions. And we encourage you to learn more about the tangible value we can bring to key processes across your organization.

www.mt.com

Laboratory Solutions

Advancing Your Research

Our laboratory instruments are the foundation of labs all over the world, as they improve processes in research and development, drug discovery and quality control. The data generated by our instruments can be analyzed and managed in our application-specific software and interfaced with your information systems. Benefits include enhanced accuracy, productivity and compliance.

- **Laboratory Weighing Solutions**
- **Laboratory Balances**
- **Analytical Chemistry**
- **Pipettes**
- **Thermal Analysis**
- **Automated Chemistry Solutions**

▶ **www.mt.com/lab**
▶ **www.mt.com/analytical**

Industrial Solutions

Improving Your Productivity

Our industrial instruments and software optimize your operations from receiving to shipping, with solutions for production, end-of-line product inspection and logistics. Results include improved product quality, accelerated and automated processes, increased efficiency and regulatory compliance. Many of our solutions can be integrated directly into ERP systems.

- **Receiving**
- **Process Analytics**
- **Industrial Weighing**
- **End-of-Line Product Inspection**
- **Logistics**

▶ **www.mt.com/industrial**
▶ **www.mt.com/pro**

Retail Solutions

Optimizing Your Fresh Foods Management

Managing fresh foods is a major challenge for food retailers. With our state-of-the-art solutions, you can effectively manage your fresh foods inventory and merchandising to maximize efficiency and profitability. Ensuring that fresh foods are available at the right prices also enhances customer satisfaction. Our solutions readily integrate with existing IT infrastructures.

- **Central Pack**
- **Receiving**
- **Prepack**
- **Counter**
- **Self-Service**
- **Checkout**

▶ **www.mt.com/retail**

Glossary of Terms

Analog Load Cell
Weight sensor consisting of strain gauges arranged in a Wheatstone bridge configuration.

Analog Output
Current or voltage signal used to represent a numeric value in legacy control systems. Analog outputs are typically low resolution.

Bluetooth
A short range wireless communications standard used for peripheral devices instead of wired solutions such as RS232 or USB.

ControlNet
Open standard fieldbus used for large data sizes on complex devices used by Allen-Bradley and others.

CTPZ
Clear, Tare, Print, Zero. Simple, single ASCII character serial command set. Also includes Select and Units switching commands in some terminals.

DAC
Digital to Analog Converter, used to produce analog signals for analog outputs.

DeviceNet
Open standard fieldbus used for smaller data sizes on simpler devices used by Allen-Bradley and others.

Discrete I/O
Used to monitor devices such as switches and used to control devices such as valves and motor starters. Low level I/O generally refers to 5–24VDC levels. High level generally refers to 115VAC or greater switching capacity. Discrete I/O is also known as digital I/O.

Ethernet
The communications protocol for lowest layers of the 7 layer Open System Interconnection (OSI) model. The seven layers are (starting with the lowest): Physical, Datalink, Network, Transport, Session, Presentation, and Application.

Ethernet TCP/IP
The communications protocol including the upper layers of the OSI model. Transmission Control Protocol (TCP) organizes packet delivery and Internet Protocol (IP) establishes the connection between devices. A typical use is in an office network.

Ethernet/IP
Open standard Ethernet based PLC fieldbus that uses TCP/IP with a special Industrial Protocol (/IP) application. This Industrial Protocol is essentially the same as is used in ControlNet. Use of this fieldbus requires a device to specifically support Ethernet/IP. Used by Allen-Bradley and others.

Fieldbus
Automation network consisting of a physical layer and communications protocol. Several popular fieldbuses use RS-485 or Ethernet as the physical layer. Some fieldbuses are open standards, while others are proprietary.

Floating Point
An IEEE-754 32 bit single precision (as used by METTLER TOLEDO) real number consisting of a sign bit, 8 bit exponent, and 23 bit mantissa.

IDNet
A METTLER TOLEDO measuring cell communications protocol used with high precision products.

Integer
A 16 bit (as used by METTLER TOLEDO) whole number consisting of a sign bit and 15 significant bits. There is no decimal point.

MMR
METTLER TOLEDO Multi Range product line – scale terminals with their own protocol.

Modbus Plus
A proprietary fieldbus used by Modicon and others. It is not compatible with Modbus RTU or Modbus TCP.

MonoBloc
A METTLER TOLEDO electromagnetic force restoration (EMFR) weighing cell design.

PLC
Programmable Logic Controller used for process control. Typi-cally consists of a processor running the control program, a fieldbus scanner (master), and discrete I/O. Similar to a DCS (Distributed Control System).

Profibus DP
A Siemens and German government developed open standard fieldbus. It is not compatible with Profibus PA or ProfiNET. Used by Siemens and others.

Protocol
Message format and rules that determine which device transmits or receives, and when this occurs.

PS/2
A serial port standard used by a keyboard or mouse. Some bar code scanners use PS/2 ports.

RIO
Remote I/O, an Allen-Bradley fieldbus. It is not the same as Data Highway +, nor does METTLER TOLEDO support DH+.

RS232
An ISA serial data transmission hardware standard suited for short distance and supporting a point to point connection only. A communication protocol is not a part of the RS232 specification.

RS422, RS485
ISA balanced line multiple node serial data transmission hard-ware standards. Communication protocols are not a part of the RS422 or RS485 specifications.

Shared Data
Internal scale terminal memory used to pass information between internal modules within the scale terminal and remote applications.

SICS
Standard Interface Command Set, a METTLER TOLEDO serial protocol.

USB
Universal Serial Bus, a serial data transmission hardware standard.

WLAN
Wireless Local Area Network. Typically based on IEEE 802.11 standard. WLAN is also known as Wi-Fi.

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